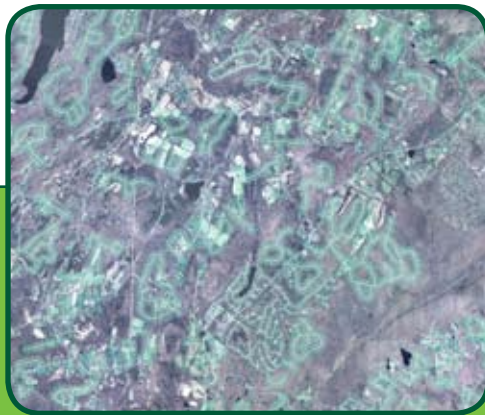
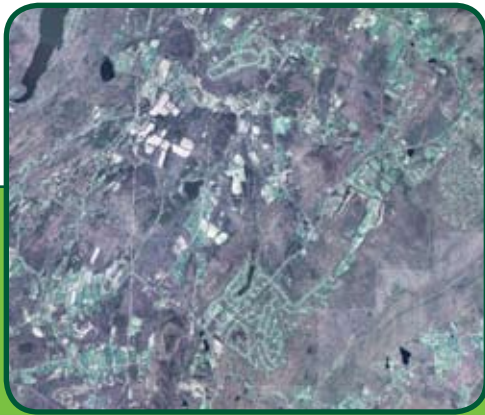


Illustrating SMART GROWTH for Orange County



Southeast Orange County Land Use Study

Acknowledgements

This RPA report was prepared by Regional Plan Association and our project partners, with generous funding from the Orange County Planning Department. RPA wishes to thank the Orange County Planning Department's staff for their assistance as well as the members of the Southeast Orange County Traffic Task Force for their dedication and guidance throughout the process.

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SEOC Task Force

The success of this project to date rests entirely on the active participation and engagement of the Southeast Orange County Traffic Task Force. Its members have shown dedication and resolve throughout the process to improving the quality of life in their region. The following municipalities, agencies, and organizations participate in the SEOC Task Force:

Town of Blooming Grove
Town of Monroe
Town of Woodbury
Village of Harriman
Village of Kiryas Joel
Village of Monroe
Village of Washingtonville

Orange County Department of Planning
Metro-North Railroad
NYSDOT Region 8
New York State Thruway Authority
Orange County Citizens Foundation
Monroe-Woodbury School District
Woodbury Common Premium Outlets
New York State Police
Office of the Honorable Sue Kelly, Member,
U.S. House of Representatives (R-NY)

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Patrick Condon,
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Graham Trelstad,
Vice President, AKRF

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and Chair of SEOC Task Force
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Ralph Maffei, Town of Blooming Grove
Peter Martin, Town of Monroe
Chris McKenna, *Times Herald Record*
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This report was designed by David M. Kooris, Senior Planner for Regional Design

Questions can be directed to David Kooris or Robert Lane of Regional Plan Association. A copy of this report can be found on RPA's website: www.rpa.org

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Executive Summary

The towns and villages of Southeast Orange County are at a crossroads in planning for their future. The land use and transportation decisions made today will affect the residents of this region for decades to come and impact the lives of future generations.

One potential future adheres to the status quo: the **Business As Usual**. Under existing zoning, the dominant development types will continue to be automobile-dependent single-family homes and big box and strip commercial establishments. They would be spread inefficiently across the landscape. Over the past several decades these developments have led to congestion on the region's roads since there is

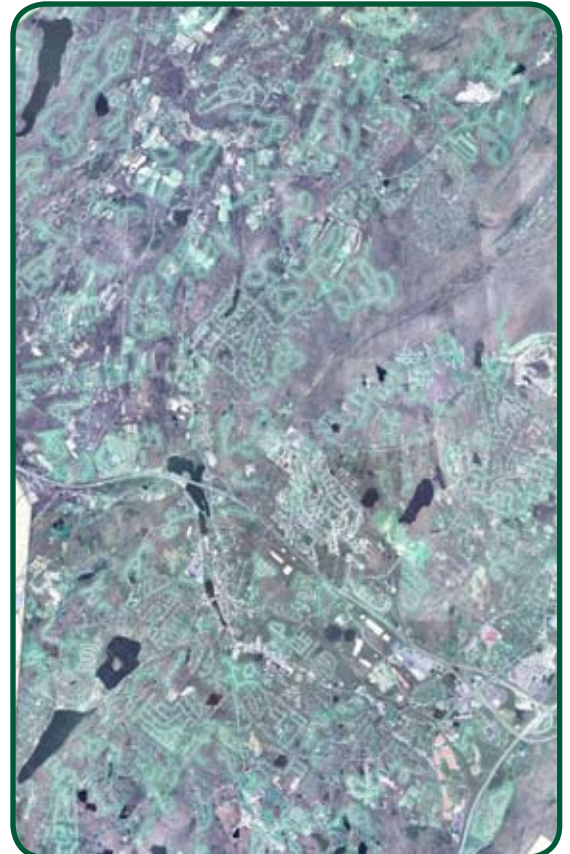
little alternative to the automobile and few major routes. This has resulted in increasing travel times and frustration while reducing air quality. The predominance of a single home type coupled with rising demand in the Metropolitan Area have led to declining affordability for the existing population. Monotonous and disconnected development is threatening to blanket the landscape and starve the region of its rural character.

Smart Growth Alternative



But there is another way: the **Smart Growth** alternative. In the fall of 2006, a group of urban planning, landscape architecture, urban design, and land use law professionals worked with the Southeast Orange County Traffic Task Force to illustrate this alternative and determine the implementation tools most appropriate to achieve it.

Business As Usual



This vision for the region's future balances ecological protection and landscape preservation with community development and placemaking to determine the most appropriate locations for development within the study area.

One must first determine where not to grow. The process begins with an assessment of the region's natural framework. Ecologically sensitive and aesthetically valuable features were identified for protection from potentially harmful development. These features make up the region's **green infrastructure**, supplying economically valuable services for stormwater management and flood prevention while providing the foundation for the region's quality of life. All future develop-

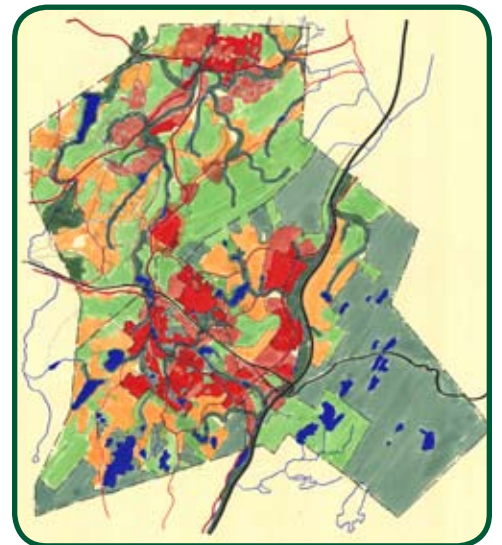
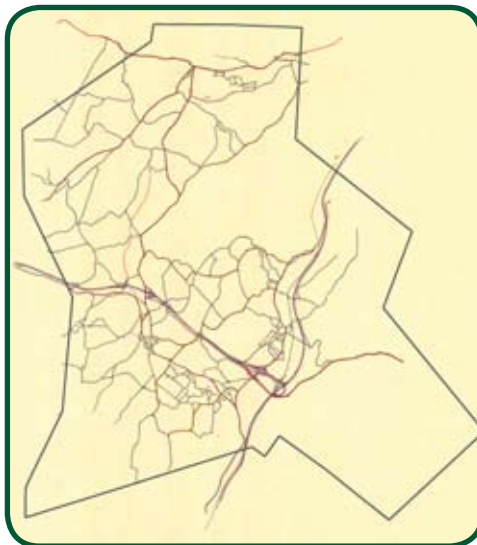
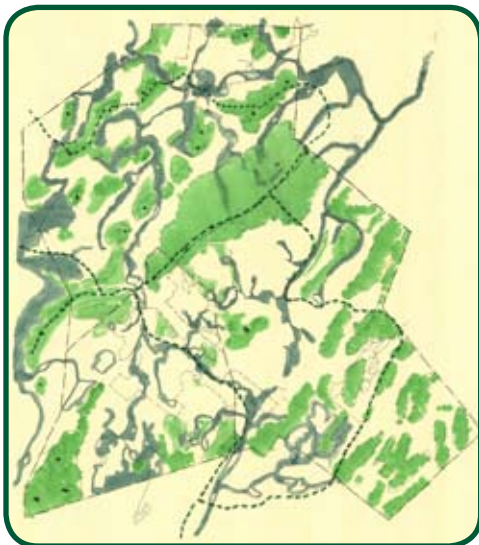
ment in the study area should be organized around, and in relation to, this network of green infrastructure.

One must then determine where growth is most appropriate. Crisscrossing the natural landscape are several **grey infrastructure** systems that will provide the supporting framework for future development. The road network, sewer and water systems, and other utilities constitute generations of investment in infrastructure that should inform the spatial distribution of future land uses to best take advantage of these investments.

By overlaying the green infrastructure and grey infrastructure a pattern emerges, identifying the most appropriate locations across the landscape for both development and preservation. This

growth management strategy for Southeast Orange County must be paired with transportation investments including sidewalks, bike lanes, transit improvements, and limited road enhancements to ensure that future development is accommodated by a variety of mobility options and not purely reliant on the automobile. Residential development will take a variety of forms, offering the full range of options to every resident of the region. Open space will be preserved and stitched together to form a network of trails and parks connecting the region's ridgelines and river valleys. In choosing the Smart Growth alternative, future development in Southeast Orange County will contribute to the region's quality of life rather than detracting from it.

Green Infrastructure + Grey Infrastructure = Growth Management



Why is a Land Use Study Necessary?

Orange County is facing unprecedented development pressure, and the Southeastern portion of the county will be the test bed for managing this growth. Acknowledging the fact that it is impossible, and undesirable, to pull up the drawbridge and prevent all development, the central question is whether this rising demand can be accommodated without sacrificing the region's rural character and quality of life.

According to projections by the New York Metropolitan Transportation Council, Orange County should anticipate forty-four percent job growth and forty-two percent population growth over the next twenty-five years. The Southeastern portion of the county will face this pressure first as it is closer to the job centers in the metropoli-

tan core. As the lower Hudson Valley has become urbanized up to the southern foothills of the New York Highlands, these mountains and parklands have traditionally marked the northern bounds of the New York Metropolitan Area, serving as a de facto greenbelt. Development to the east and west of New York City has progressed virtually unimpeded along the Northeast Corridor in Connecticut and New Jersey and across Long Island. As locations for easy development become increasingly rare inside the region's green belt, the next frontier of affordable land opportunities lies to the north of the Highlands.

The sheer amount and scale of proposals currently under review within the study area indicate that the development pressure has begun to leapfrog over Harriman and Palisades Parks and land right on

the doorstep of Southeast Orange County. As the most recent developments have shown, this has the potential to severely jeopardize the rural character of the region that has made it such an attractive location to live, work, and raise a family. Traffic congestion, loss of open space, monotonous urban design, and threatened water quality have all been hallmarks of the Business As Usual trend development pattern. This report outlines a strategy for managing growth in Southeast Orange County that is informed by the landscape and existing infrastructure, avoiding the negative externalities from unmanaged development. This report will also outline a toolbox of strategies to implement this Smart Growth vision.

The Southeast Orange County Traffic Task Force

The Southeast Orange County region has taken the most important first step by acknowledging that the issues of congestion and mobility are regional in nature and can only be solved through cooperation between the various municipalities and state and local agencies amongst which transportation and land use authority are divided. The Southeast Orange County (SEOC) Transportation and Land Use Task Force is a voluntary, grass roots, and inter-municipal planning group begun in 1998 to jointly address traffic and land use issues in this region.

The Task Force includes seven municipalities as well as several other governmental and non-governmental stakeholders. The municipalities involved are the three towns of Blooming Grove, Monroe, and Woodbury and the four villages therein: Harriman, Kiryas Joel, Monroe, and Washingtonville. Since this study began, the villages of Woodbury and South Blooming Grove were founded; their representation on this task force was covered by existing members.

Representation also includes New York State Department of Transportation Region 8, the

Monroe-Woodbury School District, Orange County Citizens Foundation, Orange County Planning Department, Orange County Legislature, and the New York State Thruway Authority, Metro-North Railroad, the New York State Police, and Congresswoman Sue Kelly's office.

This portion of the county has much greater traffic volumes than most regions in the Hudson Valley because it is the location of the intersection of Interstate 87, the New York State Thruway (Thruway) and State Route 17/ Future Interstate 86 (Quickway). The intersection is also home to the regional and international retail destination, Woodbury Common, as well as other big-box retail outlets. In 2002, the Task Force commissioned a study of traffic and transportation issues in this portion of the county from AKRF, a planning and infrastructure consultancy based in Westchester County. This study was completed in February 2005. The study resulted in nine transportation investment recommendations to alleviate congestion and improve safety in the seven municipalities within SEOC.

These recommendations include the extension of Larkin Drive (to serve as a southern service road to

the Quickway), a northern service road to the Quickway, the reconfiguration of the Route 17 Loop Ramp at Route 32, a new interchange on the Thruway in Cornwall, an entrance and exit ramp directly linking the Thruway with Woodbury Common, the widening of Route 17M, the Bailey Farm Connector, a ramp to County Route 105 from the Quickway, and a bypass to Route 208.

The study recognized that these improvements, though significant, could not solve the region's traffic and transportation challenges on their own. The municipalities needed a joint action strategy that would coordinate transportation and land use planning. The current effort documented in this report recognizes the value of all transportation investments identified in the AKRF study, echoes their importance, and attempts to shed light on the land use component of any future planning efforts.

Tackling Transportation through Land Use

Building on the conclusions of the AKRF study, the SEOC Taskforce hired Regional Plan Association to examine land uses in the region. This study was funded by the Orange County Planning Department. The effort began with an architectural build-out analysis to determine the long-range development scenario resulting from existing zoning and land use regulations and a determination of the implications for traffic and transportation of the Business As Usual scenario. This architectural build-out analysis was conducted in a way that was visually compelling and less abstract than the typical statistical build-out, by showing the actual houses arranged over the

landscape in a typical cul-de-sac and gated community configuration.

A Smart Growth alternative was subsequently developed through a professional workshop and key stakeholder participation. These graphic analyses of the trend and alternative scenarios are meant to demonstrate a potentially strong coordination between transportation and land use planning and the positive impacts on community building and congestion alleviation.

The primary goals of this study were to both demonstrate the Business As Usual trend of development

in a visual language that could be most easily understood by lay members of the public and to propose a framework for future development that would not have the same detrimental effects on traffic and quality of life as the Business As Usual trend.

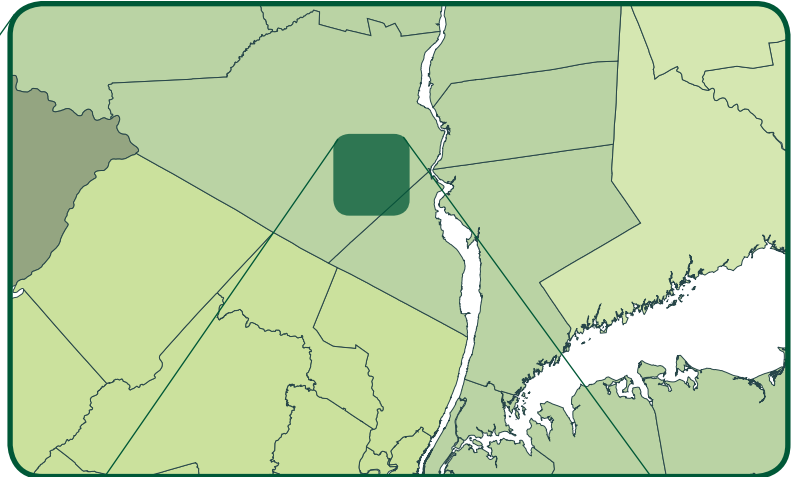
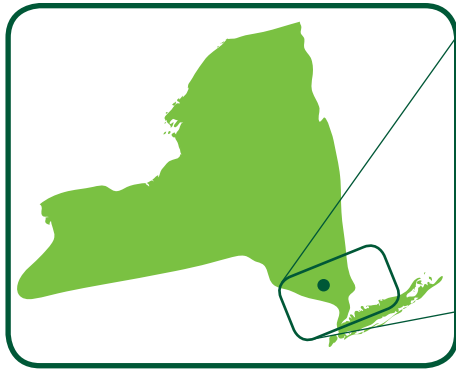


The Planning Process

The project was organized around a series of meetings with members of the Task Force at each stage of the process and a professional design and land use regulation workshop. Beginning in March of 2006, staff at Regional Plan Association has taken advantage of the existing monthly meetings of the Task Force to seek input from local members of the Southeast Orange County Traffic and Land Use Task Force. In September of 2006, a two-day professional workshop was held involving the Task Force as well as planners, designers, and land use law professionals from across the continent. The result was a product that was stakeholder led and involved a great deal of consensus building amongst the Task Force members.

It is important to note that the drawings and diagrams presented in this report are primarily the product of a two-day workshop and are not meant to represent exact locations or developments. Each graphic portrays a planning strategy or technique that can be used in the Southeast Orange County to accommodate growth while maintaining quality of life.

Study Area

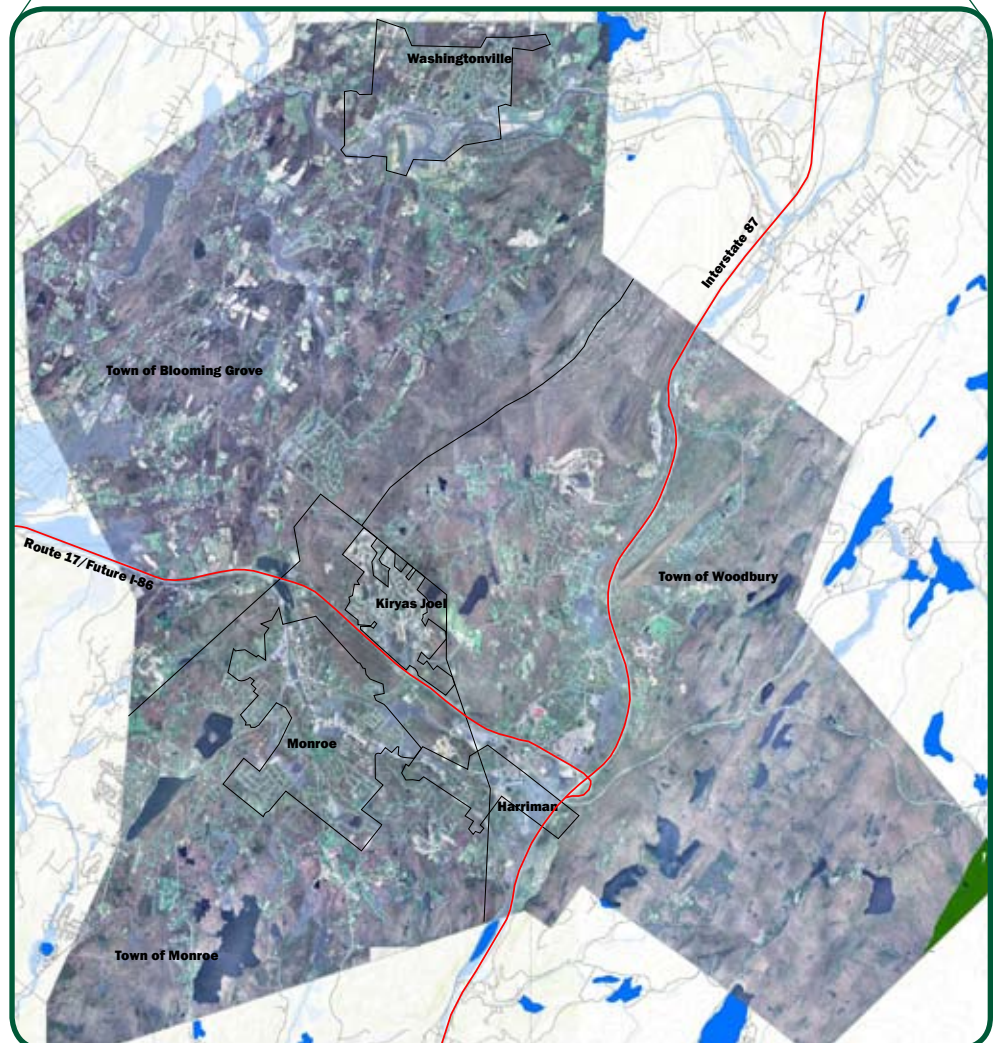


The study area is located in the southeastern portion of Orange County, New York within the Hudson River Valley. Orange County is in the northern fringe of the New York Metropolitan Area, fifty miles north of Midtown Manhattan.

Seven municipalities make up the study area: the Towns of Blooming Grove, Monroe, and Woodbury; and the Villages of Harriman, Kiryas Joel, Monroe, and Washingtonville. Since the inception of this study, the Village of South Blooming Grove was formed in the southern portion of that town and the Village of Woodbury was created coterminous to the geographical extent of the Town save for the small portion located in the Village of Harriman.

The area is well served by regional highways that provide great access to far-flung destinations but bring large amounts of traffic into and through the area's municipalities. Interstate 87, the New York State Thruway, runs north-south through the eastern portion of the study area entirely within the Town of Woodbury. The Thruway links the region with New York City to the South and Adirondack State Park and Montreal to the North. State Route 17/Future Interstate 86/the "Quickway" originates at the Thruway and heads West through the study area connecting the region to the central portion of the County, Binghamton and the Finger Lakes Region, and eventually to Lake Erie and Pennsylvania.

The rural landscape dominates the region, punctuated by a series of pronounced ridges and hills including Schunemunk Mountain and the Ramapo Range. Residential development spreads outwards from the village centers, and commercial developments are concentrated around the highway interchange and along Route 17M.



Business As Usual

The first goal of this project was to explore the trend development patterns across the landscape of the seven municipalities and demonstrate their implications in a visual style that could be most broadly understood by the citizens of these communities. Towards this end, an illustrative plan was done that presented prototypical building footprints and roadways that could be expected under current zoning.

This process began with an effort to divide the landscape into four categories: developed land, protected open space, pending development, and

soft sites. The division across the study area and the description of each category can be seen below.

This division was developed over a series of meetings with members of the task force, utilizing local knowledge to produce the eventual map of soft sites for further exploration.

While the AKRF study had produced a numerical build-out by Transportation Analysis Zone (a geographic unit used in transportation modeling), the goal of this study was to add value to those numbers by both refining them at the parcel level and graphically representing them in an easily comprehensible way. The study narrowed its focus to soft sites over 10 acres in order to identify the parcels with the largest potential impact; these make up the vast majority of the developable landscape. The build-out

does, therefore, underestimate the development potential by not addressing sites of less than 10 acres that could be subdivided into individual residential parcels or those parcels that have been subdivided but not yet built on. Existing zoning was then used to calculate the yield for each parcel above 10 acres, taking into consideration wetlands, steep slopes, and other physical constraints to produce the most accurate lot count possible. A theoretical roadway network was concurrently developed for each parcel, maximizing the subdivision yield, and drawn on an aerial photograph of existing conditions. This architectural build-out analysis was shared with the members of the task force upon completion, ensuring that the current zoning was interpreted correctly and that the lot count and road network were realistic, given the present regulatory framework.

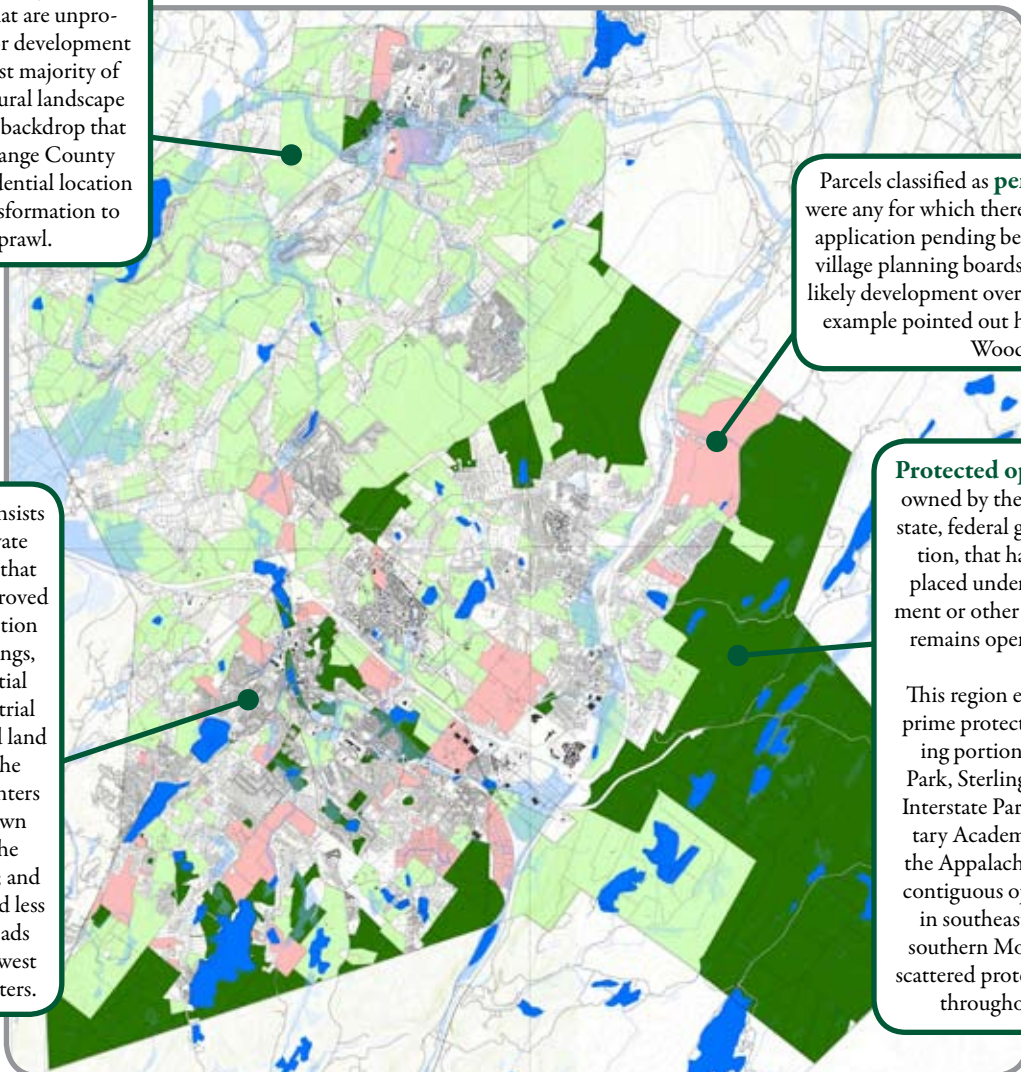
A large portion of the landscape is classified as **soft sites**, parcels that are currently vacant, agricultural, or of some other low-intensity use, such as a summer camp that are unprotected and available for development in the future. The vast majority of the agricultural and rural landscape forming the aesthetic backdrop that makes Southeast Orange County such an attractive residential location is in jeopardy of transformation to low-density sprawl.

Developed land consists of any public or private development parcels that have already been improved upon by the construction of commercial buildings, institutions, residential households, or industrial structures. Developed land is concentrated in the village and hamlet centers (Monroe Village shown here) and around the highway intersection; and becomes less dense and less contiguous as it spreads northwest and southwest from the historic centers.

Parcels classified as **pending development** were any for which there is a current subdivision application pending before one of the town or village planning boards, representing the most likely development over the next few years. The example pointed out here is Legacy Ridge in Woodbury.

Protected open space is any land, owned by the village, town, county, state, federal government, or institution, that has been permanently placed under a conservation easement or other protection to ensure it remains open space in perpetuity.

This region enjoys a huge swath of prime protected landscapes including portions of Harriman State Park, Sterling Forest, the Palisades Interstate Park, United States Military Academy at West Point, and the Appalachian Trail. These large contiguous open spaces are located in southeastern Woodbury and southern Monroe with additional scattered protected parkland located throughout the study area.



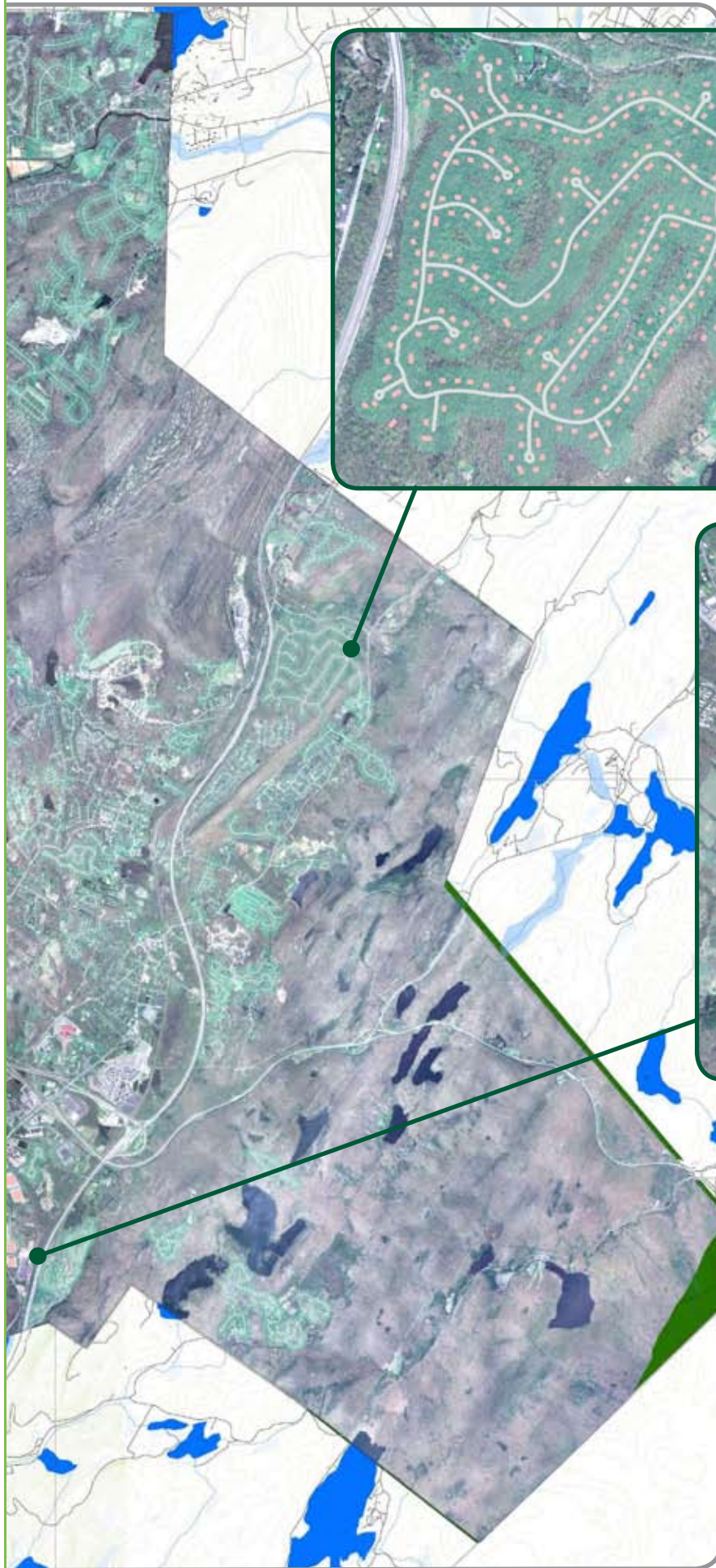


Under the trend scenario, individual agricultural and vacant parcels developed into residential lots contain their own road networks, unconnected to one another and ensuring that all traffic empties out onto the limited number of arterials (demonstrated here by four parcels west of Clove Road in Blooming Grove).



The traffic and transportation implications of the Business As Usual trend are bleak. The present development patterns will be perpetuated across the landscape, consisting almost entirely of automobile dependent single-family and age-restricted subdivisions. These will feed the entirety of their traffic flow onto several key arterials and into a handful of presently congested intersections. The situation in Blooming Grove and Monroe and Harriman Village will be most daunting, with the majority of new development relying on Route 208 for connection to the Quickway, and the village centers acting as pass-throughs to the Thruway and the commercial centers on Larkin Drive and Route 32.

Particularly negative will be the impact of low intensity development on some of the more ecologically sensitive and aesthetically valuable districts of the region. The ridgeline and open fields immediately east of the Thruway act as a visual gateway to the region if entering from the east along Route 6 or from the south along the interstate. Several hundred units could be developed on these properties, visible from throughout the southeastern portion of the county. While large sections of southern Monroe are perpetually protected from development, there are still several large parcels that could be converted to single family housing, jeopardizing the forested character of the southern gateway to the Town. The near entirety of rural Blooming Grove's farms and forests that define the region's aesthetic character are open for low-density development, adding exponential traffic to the



Several of the largest subdivisions in the region are planned to be developed with a single entry and exit for several hundred units (demonstrated here by Legacy Ridge in Blooming Grove). These massive gated communities are, in essence, one glorified cul-de-sac and ensure that all trips originating from or destined for these houses will be made on the same, single road. The Town of Monroe tackled this challenge effectively through the Rye Hill GEIS, connecting several subdivisions with a new alternative route.

The area directly adjacent to the Harriman train station remains surface parking lot in the trend scenario. The parcels directly north are redeveloped into light industrial and big box commercial as is currently proposed. This district represents the greatest opportunity in the region to create a new node of intensity that utilizes the rail infrastructure as an alternative mode of transportation.



presently congested Route 208 and raising the potential for flooding in all municipalities by covering the region's watersheds with impermeable surfaces.

Overall, the Business As Usual does nothing to reinforce the primacy of the village centers, allowing them to continue to face decline in competition with the automobile-oriented retail power centers near the highways. Present zoning will almost inevitably result in a drop in affordability due to the preponderance of a single development type. This ignores the needs of the region's existing population, offering few choices to the elderly or college graduates respectively looking to either downsize to a residence requiring less maintenance or hoping to enter the housing market while in the early stages of a career. The detriment to the quality of life that will result from the Business As Usual trend development pattern is unsustainable and will overwhelm SEOC with the negative externalities of sprawl: loss of open space and rural character, traffic congestion, lack of affordability, and declining community identity that makes this region attractive and unique.

A New Vision for Southeast Orange County



Southeast Orange County is transitioning to a region that balances a variety of mobility options and housing types. Present development is dominated by automobile-oriented, single-family houses offering little choice for residents looking for alternatives. This development threatens to overrun the rural character of the region and bring with it unyielding traffic congestion and the many other headaches associated with suburban sprawl. Having retreated from the cities and suburbs, residents will soon find that all the ills of congestion and unaffordability have followed them to this more rural landscape. The Business As Usual trend threatens to blanket the unique landscape of SEOC with the monotonous development pattern found throughout the tri-state area and the nation. Luckily, SEOC is still at the crossroads and is taking the necessary steps to coordinate land use and transportation before the development pressure becomes too great. The region presently has a chance to achieve growth without sacrificing the unique characteristics that make it such a great place to live, work, and play.

Managed growth in SEOC would increase rather than limit the housing options available to the residents of the region. While the traditional village centers and rural landscape offered a range of options for families, ageing empty-nesters, and young adults leaving home for the first time, the current development trends are affordable to families alone, and increasingly to families that are migrating here from outside SEOC. Infill in the village centers, new transit-oriented development at the Harriman train station, and a variety of housing types allowed for in the rural areas will provide the life-cycle dwelling options necessary to serve the needs of the existing

community as well as individuals and families drawn to the region for its amenities and quality of life.

As is true in so many communities throughout the tri-state area and the nation, the elderly have little option when incomes become fixed save entering a retirement home or age restricted community. They are only allowed to live in an accessory apartment in some of the municipalities in SEOC. Similarly, our children often move elsewhere after college or when finishing high school because there are no affordable options for transitional housing in the village centers and staying at home does not seem like an attractive choice. Accessory apartments are allowed in some of the communities of SEOC, but these often have restrictions that limit the tenants to elderly relatives, eliminating the possibility that these units may offer teenagers and twenty-somethings the independence they deserve while maintaining their connection to the place where they grew up. A more managed SEOC would allow for a variety of housing options to serve the existing community, providing alternatives to keep the community intact.

A full range of dwelling unit types would be concentrated in series of walkable centers rather than spread out across the landscape, ensuring the automobile is the only possibility for getting around. They would be organized in compact centers, with houses within walking distance of the corner store and apartments above to ensure eyes are on the street keep a safe atmosphere for walking. Roads would be balanced rights-of-way





for pedestrians, cars, and bikes. A robust network of sidewalks will connect the village centers to one another and allow for walking on nice days along with a system of bike lanes and green trails providing opportunities for short trips as well as recreation. By organizing uses around a series of nodes of activity, the possibility arises to serve these communities with transit. Shuttle buses or vans can support trips within SEOC and the Harriman train station would be better utilized for work or leisure trips to New York City or locations in Northern New Jersey.

The road network is congested right now. Even with incremental improvements and some key infrastructure projects outlined by AKRF and in this report, significant capacity will not be added to the system for moving around in automobiles. Yet much more development is anticipated. As the Business As Usual trend development scenario shows, thousands of dwelling units can be built as of right between the seven municipalities. The only way that the additional trips generated by these new uses will not completely choke the transportation system is by organizing

and designing them in a way that create alternatives to the automobile for traveling between them and to other locations. Future development as much as possible should be organized in walkable nodes that can be connected by transit. Few people if any will give up their automobile, but eliminating the necessity to drive for a quart of milk or to pick up children from school would help to alleviate congestion on our roads.

Managed growth in SEOC would develop in a way that responds and relates to the large natural systems and open spaces that form the framework of our region. It is the ridgelines, river corridors, and agricultural landscapes that form the identity of this region and it is their continued presence that will ensure the retention of the region's character and quality of life. It is essential, therefore, that these natural systems inform future development patterns. Too often does development ceaselessly blanket the landscape, erasing the physical landmarks and icons that have defined this region for generations only to be blotted out in a moment of geological time. By protecting the mountains, rivers, and fields of the area, one not only retains the aesthetic value of the landscape, but

also creates priceless recreation opportunities and makes use of the landscape as a valuable ecological infrastructure. A protected river corridor can aid in stormwater management, ensure aquifer recharge, and reduce the risk of flooding.

All in all, managed growth in Southeastern Orange County consists of development that responds to the unique characteristics of the local landscape and the particular needs of the local community.



Developing a “Smart Growth” Alternative

A professional design and planning workshop was convened in mid-September 2006 to develop the framework for a “Smart Growth” alternative to the business-as-usual trend development pattern. This workshop included regional and national experts on landscape design and land use policies: Patrick Condon, James Taylor Chair in Landscape and Livable Environments at the University of British Columbia; Harry Dodson, Principal Dodson and Associates Landscape Architects; Peter Flinker, Principal at Dodson Associates; Professor John Nolon, Counsel, Land Use Law Center at Pace University School of Law; Joel Russell of Russell Associates; and Graham Trelstad, Principal of AKRF. Over the course of two days, September 20th and 21st, 2006, these professionals worked independently and with input from the task force to develop the framework for a coordinated land use plan between the seven municipalities included in the study.

This report guides to navigate the reader through both the process of developing this alternative, the aspects of this alternative plan for the region, as well as the set of tools to implement the vision. The first section explores the process of identifying the green and grey infrastructure systems that make up the landscape and provide the framework for future development.

- **The green infrastructure represents the region’s most valuable natural systems which provide value for recreation, aesthetics, and wastewater management and flood control.**
- **The grey infrastructure consists of the mobility system, the roads, rails, and trails upon which people move around the region as well as the sewer, water, and utility infrastructure that support development.**
- **When analyzed and combined, a region-wide growth management strategy emerges that prioritizes preservation and development areas across the landscape.**

The following section describes the toolkit for permanently protecting the most valuable open spaces while directing development to the priority growth areas. This requires robust strategies to shift development around the region involving both intra- and inter-municipal transfers of density and public-private partnerships for implementation. The final section outlines parcel level strategies: the various ways in which an individual property development can incrementally implement the green and grey infrastructure and contribute to a regional development pattern that is greater than the sum of all its parts.

Southeast Orange County Land Use Workshop

Orange County Citizens Foundation, 23 White Oak Drive Sugar Loaf, NY

September-19

5-7 Evening Reception

David Church, Commissioner of the Orange County Planning Commission will give the opening remarks. Robert Yaro, President of Regional Plan Association will then introduce the visiting experts and kick-off the workshop. There will be opportunity for discussion with the resource team during the reception.

September-20

8-12 Mini-bus tour of SEOC to get the visiting experts acquainted with the region

12-1 Working Lunch

Over lunch, the workshop participants will familiarize themselves with the “business as usual” build out that was completed by Regional Plan Association this spring. They will begin to critique the trend development pattern and brainstorm on alternatives.

1-5 Working Session #1

The primary goal of this session will be to come up with a development alternative to the “business as usual” trend that improves regional mobility, open space, and overall quality of life. A series of maps and graphics will be produced that convey the architectural build out alternative offering more connectivity in the street pattern, continuity in the open space system, and reinforces the existing communities and their character. Several indicators will be examined to measure the alternative’s performance against the “business as usual” trend (e.g. congestion at key intersections) to be sure that the “smart growth” scenario meets the goals of the SEOC Taskforce.

5-6:30 “Mid-course Correction”

The members of the SEOC Taskforce will review the first products from the workshop and offer any suggestions and corrections to the visiting experts.

September-21

8-5 Working Session #2

The goals of the second session are twofold: to continue to produce graphic material that depict the alternative generated on day one, and to determine the regulatory framework that would need to be in place to achieve the “smart growth” alternative. The most important element of the plan produced at this workshop is that it be implementable. The team will examine state of the art zoning techniques and other elements of the planning tool box to enable and encourage implementation of the “smart growth” alternative.

5-7 Presentation of Workshop Products to SEOC Taskforce

Urban Design and regulatory recommendations will be presented to the SEOC task force including all visuals and implementation strategies developed during the workshop.

Resource Team

- Patrick Condon, James Taylor Chair in Landscape and Livable Environments at the University of British Columbia
- Harry Dodson, Principal of Dodson Associates Landscape Architects and Urban Planners
- Peter Flinker, Principal of Dodson Associates Landscape Architects and Urban Planners
- David Kooris, Associate Planner of Regional Design at Regional Plan Association
- Robert Lane, Director of Regional Design at Regional Plan Association
- John Nolon, Professor of Law Counsel at Pace University Land Use Law Center
- Joel Russell, Principal of Joel Russell Associates Land Use Law and Planning Consultants
- Graham Trelstad, Vice President at AKRF
- Robert Yaro, President Regional Plan Association

Regional Plan Association



Green Infrastructure

The most fundamental tenet of regional planning is to listen to what the natural landscape has to say. Cities, towns, and villages had a strong connection to their surroundings when they were founded; Monroe, Washingtonville, and the other villages and hamlets are located where they are because of the power afforded by the rivers, the high value of the agricultural soil nearby, and the beauty in the surrounding mountains and hills. Modern development has become so disconnected from the land, with its ability to cut off mountain tops and fill in valleys to make land more level, culvert streams and fill wetlands to make land drier, or construct on steep slopes to extract more value from a view. All these abilities operate independent from, and often in opposition to, the natural systems that have reached a sustainable equilibrium over millennia of physical evolution and the long-term cost advantages of learning from and harnessing these systems rather than working against them.

The team began by identifying the large green systems that could constitute the framework for an aesthetically pleasing and high quality-of-life landscape while providing long-term value as green infrastructure, managing stormwater to limit flooding and recharging aquifers so necessary to the region's potable water sources. In contrast to isolated parklands or detached forests and farms, this exercise stresses the continuity of systems and the importance of contiguous open spaces forming a network throughout the landscape.

This is accomplished by mapping ecological constraints including wetlands, floodplains, river and lake buffers, as well as ridgelines and steep slopes. These features define the landscape and are the physical identifiers with which local residents relate. Just as the spire of the Empire State Building is a beacon throughout New York City, so too do Schunemunk Mountain and the headwaters of the Ramapo serve as beacons to navigate around Southeast Orange County and define its unique sense of place. To lose them under a blanket of uniform development, indistinguishable from any number of places across the nation, would be to cease to be Southeast Orange County. Additional lands were then selected which have the best opportunity for rounding out the network, forming a contiguous framework of open spaces throughout the region. The resulting map outlines a green infrastructure system that defines the priorities for preservation and protection across the landscape.

Traditional values of the green aspects of a landscape are generally well understood including providing recreation opportunities, scenic beauty, and wildlife habitat, all of which contribute to a region's quality of life and overall value. In addition, the green systems of the region can truly be used as infrastructure, helping to recharge groundwater and prevent flood damage. By reserving the area within the floodplain and within a river corridor buffer to remain undeveloped, save for passive and active recreation uses, the result first and foremost is to keep structures, including homes and businesses, out of the path of flood waters. Keeping the lands within the river buffer permeable, allowing water to infiltrate into the soil

during rain storms, also reduces the risk of flooding by slowing the rate at which water reaches the river itself, greatly limiting the ultimate crest height of each flood event.

Additionally, reducing impermeable surfaces throughout the watershed allows the water to recharge groundwater aquifer systems, permitting rainfall to contribute more fully to the region's fresh water resources. When rainwater is diverted into storm drains and culverts to be deposited into a river further downstream, it is forever lost from the local hydrologic cycle and unavailable for future uses. As the water slowly percolates through the various layers of soil on its journey towards the aquifer, it undergoes a long and naturally perfected filtration, cleaning out the pollutants that rainwater absorbs from our automobiles, industry, and agriculture. Green infrastructure is not only a fundamental aspect of a region's aesthetics and quality of life, but also has a pronounced health and economic value.

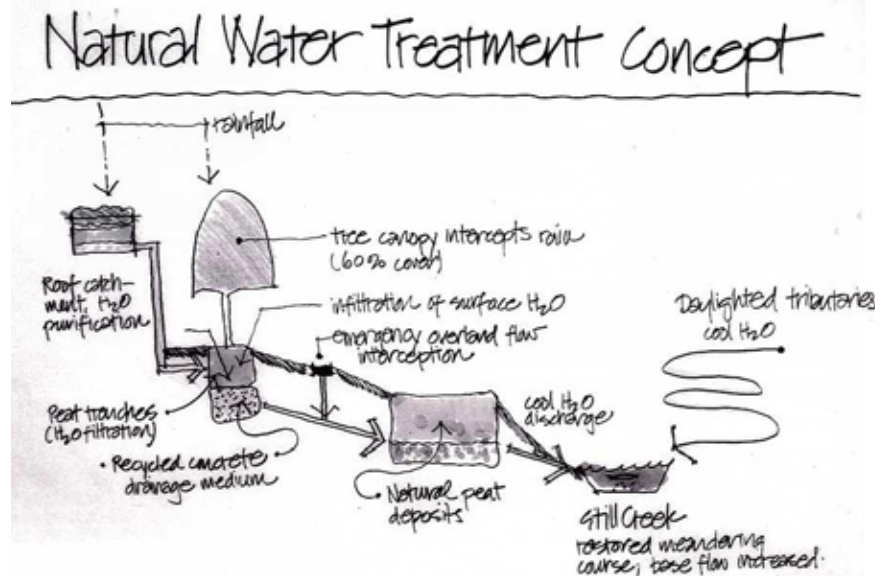
Ensuring that the ecologically sensitive landscapes add together to form a contiguous network of preserved landscapes is of the utmost importance to achieve the latent health, aesthetic, recreation, and infrastructure value from the land.

Image courtesy of Pat Condon from *Sustainable Urban Landscapes: the Brentwood Design Charrette*, a publication of The James Taylor Chair in Landscape & Liveable Environments at the University of British Columbia

Green Infrastructure provides...

- recreational value through trail systems, forests, and playing fields.
- aesthetic value through preserved ridgelines and agricultural and forest landscapes dominating viewsheds.
- monetary value through the maintenance of development-free floodplains, the allowance for groundwater and aquifer recharge, the stormwater management abilities of natural riparian systems.

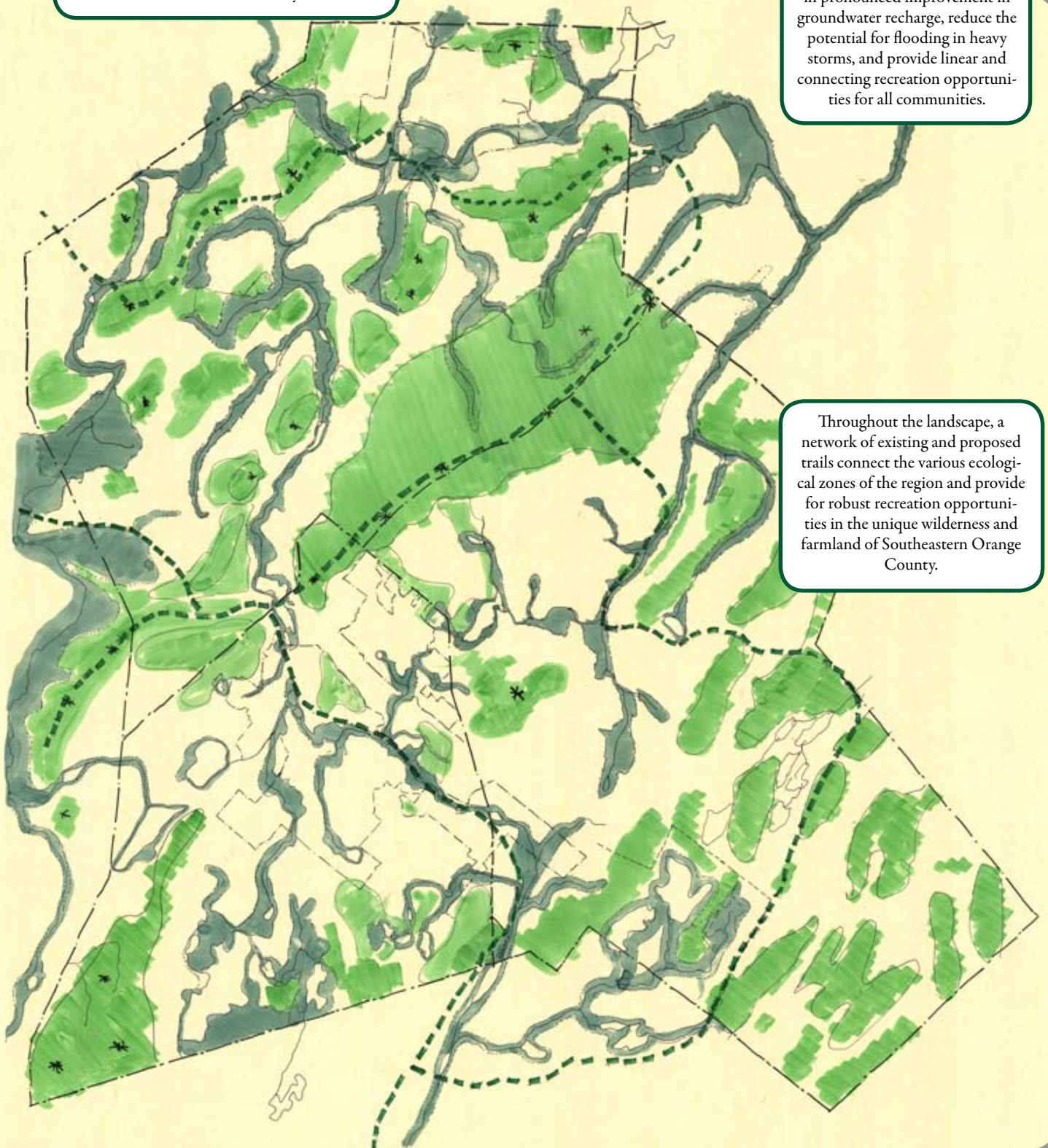
It is of the utmost importance that these systems be continuous across the landscape, forming entire networks as the framework for development.



Ridgelines, hilltops, and agricultural land form the backdrop of life in SEOC. Protecting them from development that would encroach on their aesthetic beauty would enable the region to maintain its rural character and quality of life that make it such an attractive place to live, work, and raise a family.

In dark green, the riparian corridors establish the overall ecological framework of the region, consisting of river courses and buffer, floodplains, and wetlands. Reducing the impact of development on these zones will result in pronounced improvement in groundwater recharge, reduce the potential for flooding in heavy storms, and provide linear and connecting recreation opportunities for all communities.

Throughout the landscape, a network of existing and proposed trails connect the various ecological zones of the region and provide for robust recreation opportunities in the unique wilderness and farmland of Southeastern Orange County.



Grey Infrastructure

As with any previously developed landscape, this region also has a framework of grey infrastructure across the hills, valleys, and ridges that has been overlaid above the natural systems by centuries of man's physical imprint. Grey infrastructure falls into two categories: utility and mobility. Utilities include the electricity, cable, telephone, and internet grids as well as the water delivery systems and wastewater management and sewage treatment systems. Mobility consists of the road, rail, and trail networks that crisscross the landscape allowing people to move around and get from one place to another. While we recognize the importance of the utility infrastructure in determining land use patterns, this section will focus entirely on the mobility elements of the grey infrastructure. Utilities will be mentioned later in this report.

One of the greatest challenges in Southeast Orange County is the fact that the majority of the primary road network was developed prior to the automobile era. There are few arterial routes that cross the entire region, and many of those that do exist are underdeveloped rural routes unable to carry high volumes and prohibitively winding for popular travel. The north-south oriented ridgelines in the north of the study area prevent east-west travel, ensuring that all trips originating in the north and heading to the Quickway or the Thruway must travel on either Route 208 in Blooming Grove or Route 32 in Woodbury. Similarly in the south, routes are limited because of topography and large lakes. This has not traditionally been as much of an issue in the south because population growth to the south of the study area has not been nearly as pronounced as

to the north, and the Town of Monroe has used inventive techniques to create alternatives. While an alternative to Route 208 was recommended in the AKRF report, it is unclear how such a road crossing so many individual properties would be funded or constructed. This report aims to suggest an alternative whereby critical grey infrastructure can be incrementally implemented through the development of individual parcels to be described later in this report.

Southeast Orange County originally had two rail lines running through it, alternatives between Middletown and Harriman that each connected the region to Hoboken, NJ, and also Manhattan via ferry service or PATH. In the early 1980s, the Main Line running through the village centers of Harriman and Monroe and on westward to Goshen was closed, allowing Metro North and the municipalities to put the limited resources available into the northern line. While this line was further away from the village centers, the greater amount of open land allowed for the construction of larger commuter lots. The only station currently within the study area is at Harriman consisting of a 20-acre commuter lot with 1000 parking spaces. Since closure of the southern spur, much of its length has been converted from rail to trail, providing linear recreation opportunities for residents of the region. It is a recommendation of this report that the trail be completed in its entirety from Middletown to Harriman to provide an alternative to the automobile for the shortest distance trips and a recreation opportunity of regional significance.

Grey Infrastructure includes...

- the roadways within the region ranging from Interstate Highways to arterials to rural routes and local streets.
- the rail infrastructure connecting the region to the job centers in New Jersey and New York City via a sustainable travel option.
- sewer, water, and other utilities which enable development at a higher density in the centers of the region, while their absence deters it in the rural hinterland.

There are many aspects of the region's grey infrastructure that are currently not being utilized to their full potential.

Grey infrastructure can co-exist with and even help implement green infrastructure throughout the region.

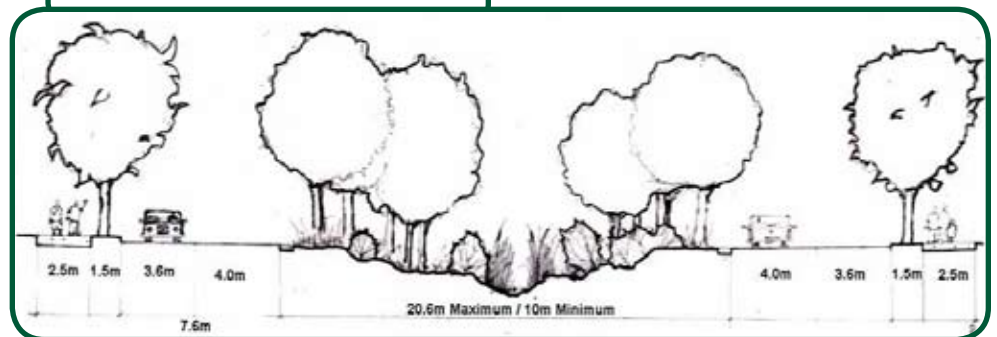
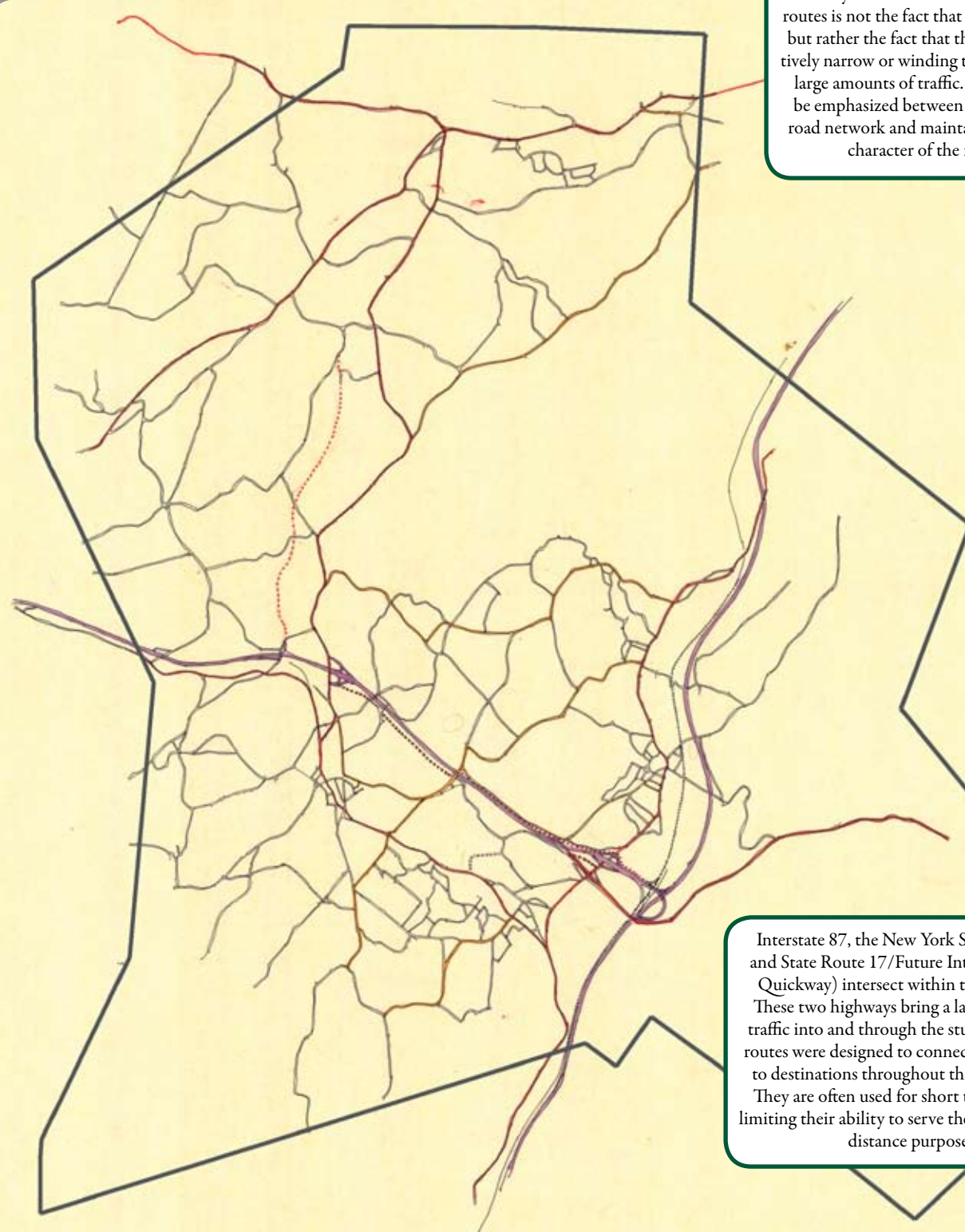


Image courtesy of Pat Condon from *Sustainable Urban Landscapes: the Brentwood Design Charrette*, a publication of The James Taylor Chair in Landscape & Liveable Environments at the University of British Columbia



While there are very few primary north-south routes bisecting the study area, these are but one level of a robust road hierarchy. The barrier to using alternative routes is not the fact that they don't exist, but rather the fact that they are prohibitively narrow or winding to accommodate large amounts of traffic. Balance must be emphasized between upgrading the road network and maintaining the rural character of the region.

Interstate 87, the New York State Thruway, and State Route 17/Future Interstate 86 (the Quickway) intersect within the study area. These two highways bring a large amount of traffic into and through the study area. These routes were designed to connect the study area to destinations throughout the tri-state area. They are often used for short trips, however, limiting their ability to serve their primary, long distance purpose.

Growth Management

We overlay the green and grey infrastructure systems to identify the landscapes most appropriate for development or preservation. Because of a variety of factors including ecological value and amount of existing infrastructure, not all developable parcels are created equal. Parcels proximate to centers have access to a more robust road network, walkable neighborhoods, and sewer and water capacity that is not shared by properties on the periphery of the towns. Equally, wooded or agricultural parcels adjacent to contiguous blocks of protected open space are more appropriate for preservation than an isolated property floating in a sea of development. Overlaying the green and grey infrastructure allows these priorities to emerge, resulting in a growth management strategy for Southeast Orange County identifying areas that should be targeted for protected or preserved from more intense development.

The specific areas identified for protection or preservation within SEOC were parcels contiguous to and/or surrounded by the existing Palisades Interstate Parklands, Harriman State Park, Sterling Forest, the Appalachian Trail, or the West Point properties as well as Schunemunk Mountain and other select properties that contained significant ridges, riparian zones, or agricultural lands. Growth should be directed towards existing village and hamlet centers with the potential creation of several new centers. The most apparent opportunity for such regional growth capture is at the Harriman train station, but additional opportunities may exist in central Blooming Grove.

The growth management strategy outlined here works towards the goals identified in the vision section of this document. First and foremost, continued development should progress in a way that does not overextend the region's infrastructure and preserves the rural aesthetic of Southeast Orange County. Future growth should add to, rather than detract from, the landscape and communities of the region. The growth management strategy is centered on directing growth into the existing village and hamlet centers and away from the riparian zones and ridgelines.

Strategies for implementing the region-wide growth management scheme will first be outlined; these are tools that allow development to be simultaneously discouraged in some areas of the region and encouraged in others. We will next examine tools implemented at the site level that are used to preserve areas of the landscape where development is not desired. These will be followed by strategies for achieving the desired critical mass of activities to make a center into a quality place including the revitalization of existing centers and the creation of new ones. Finally we will explore alternatives to suburban, low-density residential development outside of the village and hamlet centers.

Growth Management prioritizes the various landscapes within a region for different uses:

- The most ecologically sensitive areas are slated for preservation and protection, limiting development within them.
- The village centers and areas with under-utilized infrastructure are targeted for intensification and redevelopment.
- Greenfield development is reserved for areas with the least ecological value and closest proximity to existing centers.

All land is not created equal. Just as zoning assigns the most appropriate use to various parcels, growth management assigns the most appropriate intensity of uses across the landscape.



Village Centers



Existing Residential



Village Residential



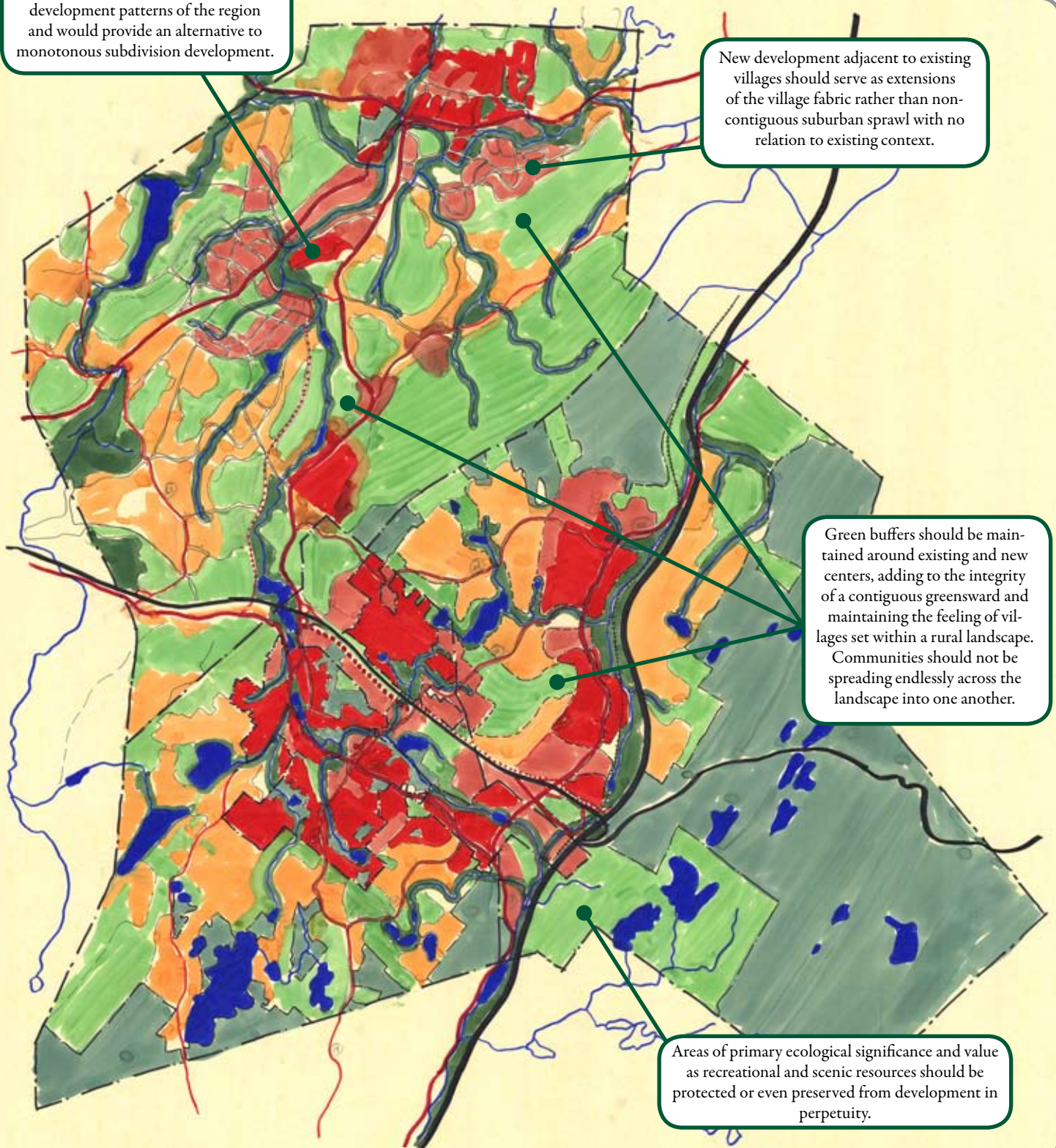
Open Space

New village centers should be formed as a way of organizing future development within presently rural areas. These centers would echo the historic development patterns of the region and would provide an alternative to monotonous subdivision development.

New development adjacent to existing villages should serve as extensions of the village fabric rather than non-contiguous suburban sprawl with no relation to existing context.

Green buffers should be maintained around existing and new centers, adding to the integrity of a contiguous greensward and maintaining the feeling of villages set within a rural landscape. Communities should not be spreading endlessly across the landscape into one another.

Areas of primary ecological significance and value as recreational and scenic resources should be protected or even preserved from development in perpetuity.



Placemaking in a Sprawling Landscape

Accommodating the Region's Growth

Integral to the success of this plan is a centers-oriented approach to regional growth. This includes the reinvigoration of the existing village and hamlet centers and the creation of new centers in a handful of potential locations. Development adjacent to existing centers should be designed as an extension of that center, rather than a disconnected appendage. Where additional suburban residential development is acceptable, conservation subdivision design should be utilized so that the negative impacts of any such development are limited.

Village & Hamlet Infill

In addition to the rural character and natural beauty of Southeast Orange County, the greatest assets in the region are the existing village and hamlet centers. They are of human scale, walkable, and offer the mixture of uses so desired by communities around the country. While people often think of these village centers as being “built out,” a closer look reveals great opportunity for additional development. Surface parking lots, underutilized parcels, and vacant upper stories are all potential sites for targeted infill, serving to bolster the village or hamlet character. New developments will provide both a residential population to support retail as well as more varied housing options for the region's existing residents.

One of the most challenging aspects of implementation will be incrementally intensifying the village and hamlet centers while maintaining the current quality of life without exacerbating the existing traffic issues. The difficulty lies in the fact that in the short run, additional commercial and residential uses in the village centers will result in an increase in traffic; once a critical mass is achieved whereby walkability is enhanced and a potential transit node is created, this traffic will subsequently decline. Public consensus needs to be reached, however, to ensure that stakeholders understand the short- and long-term implications of intensifying the village centers.

In order to accommodate population and job growth in the village and hamlet centers, substantial infrastructure investment may be necessary to increase the sewer, road, and sidewalk capacity to accommodate the added residents and workers. Financing this infrastructure can be challenging. If the state, county, and local municipalities are

dedicated to channeling growth to village centers while preserving the rural fringe, effort should be made to share in the costs of smart growth as the long-run efficiencies will benefit all levels of government. The New York State Legislature should enable local government to exact impact fees from developers for infrastructure costs other than open space as is currently allowed. Municipalities should have the authority to force shared payment of expenses for infrastructure related to the incremental impact of that development.

Examples on subsequent pages demonstrate particular strategies that may be utilized to achieve targeted village or hamlet infill while maintaining the existing character and quality of life.

Village Extension

Some village centers are still surrounded by farms, forests, or other developable lands. These typically have housing projects pending construction on their fringe. It is important that development occurring at the edge of an existing village become an extension of that village rather than a stand-alone subdivision, cut off from that to which it is directly adjacent. The areas surrounding Washingtonville and Kiryas Joel are most likely going to be developed sooner than the rural hinterland because of their proximity to those village centers. Examples on the following pages demonstrate ways in which development adjacent to these centers can become extensions to the villages rather than distinct subdivisions within walking distance, but not walkable to the villages. By using the region's natural landscape as a framework for future village extensions, village-scale development can be achieved while contributing to the region's quality of life.

Opportunities for New Village-Scale Centers

There are several opportunities for the formation of new village centers within the study area. The sites with greatest potential are those located adjacent to the Harriman Metro-North station. Other opportunities exist at several rural crossroads in Blooming Grove.

The creation of new nodes of concentrated development should be coupled with a landscape preservation strategy to ensure that the net cumulative impact of these developments are less than the Business as Usual. Several strategies are outlined in the Implementation section of this report to help

municipalities pair open space protection with centers formation. The most appropriate strategy for shifting development around the landscape is Transfer of Development Rights, outlined later in this report.

In order to ensure that any future development in the region's new or existing centers is in keeping with the scale and character of the region's established neighborhoods, we recommend form-based zoning and design guidelines to control the massing and feel of any future development.

Form-based zoning controls a building's mass, height, and setbacks rather than the uses that take place within it. It is much less important in a village center whether a building houses residential apartments, offices, or retail than the necessity for the building to create a street wall, be of similar massing to surrounding structures, and have enough activity and transparency on the ground floor to add to the pedestrian experience. Form-based zoning works best when coupled with design guidelines to control building materials, the relationship of buildings to the sidewalks and other public spaces, and signage so that all buildings are in character with their context and contribute to the public realm.

It must be noted, however, that the tools available for a community to use must be calibrated with the local planning and administrative capacity. Administering design guidelines, for example, may require staff members trained in design review and able to dedicate a great deal of time to this effort. Shared services will be discussed later in this report.

Conservation Subdivision

This alternative method for subdivision design balances development with its natural surroundings more effectively, limiting the negative impacts of suburban development while adding value and character to each neighborhood. This technique will be described in more detail in the Implementation section of this report under the category of Site Level techniques.

VILLAGE & HAMLET INFILL

CENTRAL VALLEY: There exists the physical capacity for growth in both hamlets in the Town of Woodbury: Central Valley and Highland Mills. This plan uses Central Valley to demonstrate how growth can be accommodated in either of these centers while improving, rather than detracting from, the quality of life in the hamlet. As long as development in the hamlet centers is coupled with a preservation strategy in the surrounding rural and forest zones, the additional uses will result in less additional net traffic than that which would result from the business-as-usual scenario.

MONROE VILLAGE: There is a great deal of under-utilized surface parking in Monroe Village center. Additionally, the parking that is used is located in irregularly shaped lots that are not connected to one another and do not make the most efficient use of the land. The existing retail and restaurants in the village center provide the solid foundation for a cluster of amenities that is within walking distance of any future residential uses above stores and in the surrounding neighborhoods. The preponderance of parkland ensures that more residential uses could be accommodated without sacrificing quality of life.

A comprehensive network of pedestrian connections should be developed throughout the hamlet centers between existing resources ensuring that walking between activities and destinations is made as easy as possible.



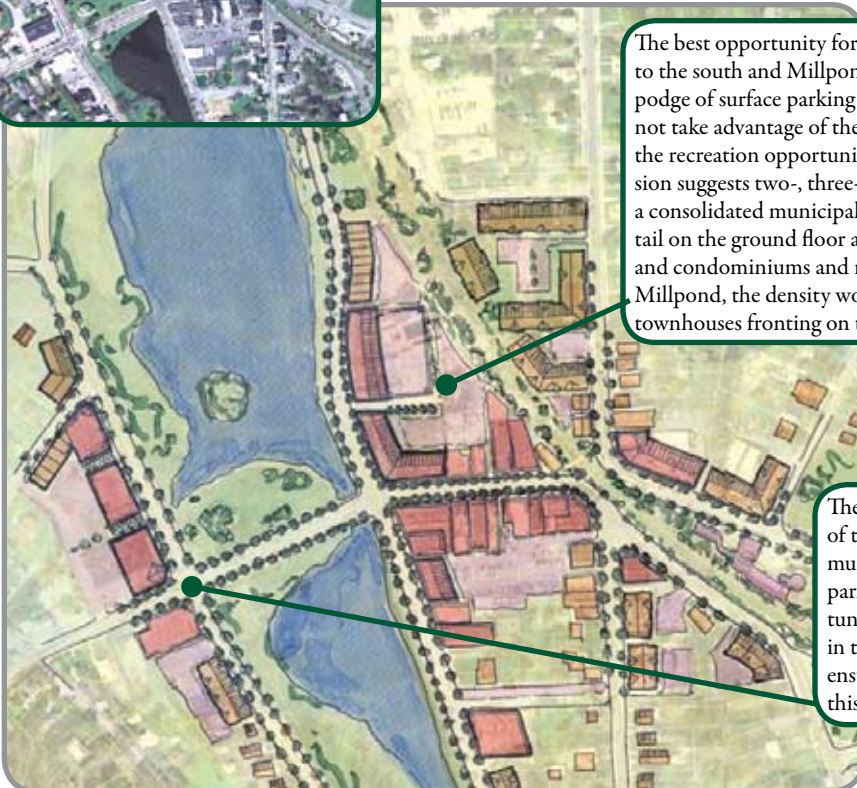
Surface parking lots break up the street wall and detract from the walkability of a neighborhood. Parking should be located behind development and buffered from adjacent uses by landscaping. Mixed use structures of two to three stories are situated at the property line along the sidewalk with retail and other commercial uses along the ground floor, framing the public realm with interesting and active uses.

CENTRAL VALLEY MONROE VILLAGE



The best opportunity for infill is on the block bounded by Lake Street to the south and Millpond Parkway to the west. The current hodge-podge of surface parking lots is not an efficient arrangement and does not take advantage of the beauty of the lakefront or the proximity to the recreation opportunities in the park and along the rail trail. This vision suggests two-, three-, or four-story mixed-use buildings wrapping a consolidated municipal parking deck. These buildings would have retail on the ground floor along both Lake Street and Millpond Parkway and condominiums and rental units above. As you travel north along Millpond, the density would be reduced, tapering down to two-story townhouses fronting on the lake.

The Village Center would continue seamlessly to the western side of the lakes. The properties along 17M fronting the lakes can take much greater advantage of their views and proximity to both the parklands of the village center and the shopping and dining opportunities within walking distance. Unlike the present developments in these locations, parking must be placed behind the buildings to ensure a pedestrian friendly environment and village center feeling in this western extension of the downtown.



VILLAGE EXTENSION

WASHINGTONVILLE: Development contiguous to existing village centers should take on the character of extensions of those centers rather than unconnected appendages. Too often, a strictly suburban development type is affixed onto an edge of a village center with little relationship to it or the surrounding countryside. The road network of such developments should act as an extension of the village grid, albeit curvilinear and responding to the landscape.

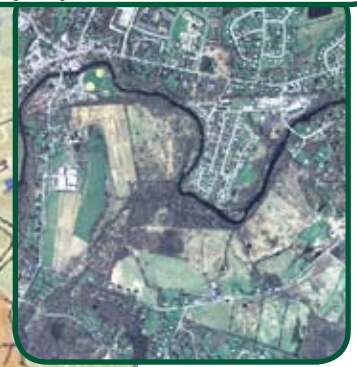
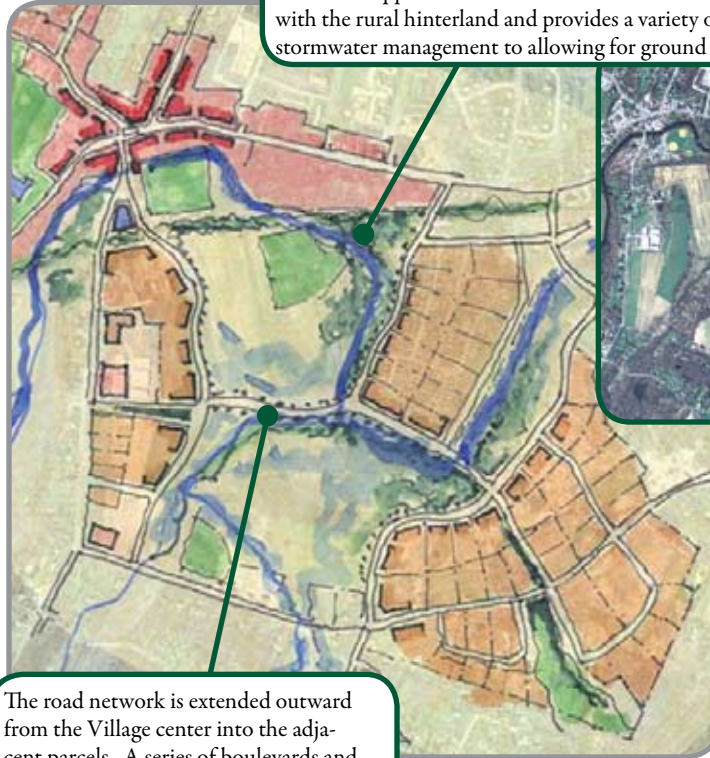
The natural systems should provide the overall framework for development; the transformation of individual parcels should be utilized to incrementally implement the underlying green infrastructure systems as is shown here, in Washingtonville.

KIRYAS JOEL: Several aspects of Kiryas Joel's compact development pattern adhere very closely to the principles of Smart Growth. The walkability of the entire Village, low reliance on the automobile, and high transit usage are more sustainable than automobile dependent alternatives.

It is the high density of the community that allows for alternative modes of mobility and a range of unit types to accommodate the needs of the community's population. However, the neighborhood and building design could respond more closely to the natural surroundings and incorporate more open space into developments, improving quality of life for the Village's residents.

This plan is meant to represent an alternative for future developments on the Village's edge that maintains the precedent of high density established in other parts of the Village, but does so in a way that incorporates parklands and natural features throughout the development. These will serve as recreation and aesthetic amenities while also serving ecological value as described throughout this report.

The underlying green infrastructure provides the framework for development. A system of green corridors inter-woven between and within the various neighborhoods extending south from Washingtonville allows for recreation opportunities in the form of trails connecting the village center with the rural hinterland and provides a variety of ecological services from stormwater management to allowing for ground water infiltration.



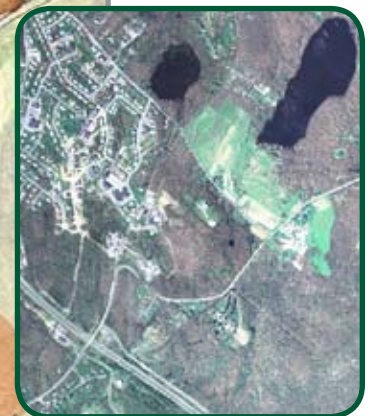
The road network is extended outward from the Village center into the adjacent parcels. A series of boulevards and parkways connect disparate developments across the open spaces allowing for alternative travel patterns that help to keep some traffic off the limited primary arterials.

WASHINGTONVILLE

KIRYAS JOEL


There exists a network of river corridors and riparian zones throughout the Village that are presently lost under the blanket of development. Future neighborhoods should respect these linear landscapes, allowing them to provide the framework for a Village-wide system of parklands and trails that will also serve to aid in stormwater management, flood protection, and allow for groundwater and aquifer recharge.

At the local scale, pocket parks should be created at the heart of each newly formed residential neighborhood around which development should be framed. These pocket parks should be connected by a series of boulevards, the primary pedestrian, bike, and transit corridors, that link neighborhoods with one another and with the large parklands along the Village's rivers and riparian zone.



OPPORTUNITIES FOR NEW VILLAGE-SCALE CENTERS

HARRIMAN STATION AREA




The Northern Neighborhood on the site would be predominantly commercial. A new crossroads is created at the intersection of Route 17 and Route 17M. The intersection is reconfigured at ninety degree angles and commercial opportunities with residential units above are created within the boundaries of the Town of Monroe. The bulk of this neighborhood is very flexible for a variety of commercial types including light industrial, research and technology based, as well as live-work units.

The ecologically sensitive zone in the center of the site is preserved, separating the northern commercial neighborhood from the southern mixed-use, transit-oriented development. There may be a possibility of creating a north-south road that skirts the edge of the wetlands, connecting the two neighborhoods and creating an alternative to Route 17.

The southern neighborhood on the site is a textbook example of a Transit-Oriented Development. In the earliest phase of construction, the surface parking capacity is replaced by a parking deck located at the southern edge of the site. This frees up the majority of the site for a higher and better use than a surface parking lot. The northern face of this garage could be wrapped in commercial or retail uses, mirroring the development directly to the garage's north.

Immediately adjacent to the Harriman station are the larger format structures with retail on the ground floor and a mixture of offices, condominiums, and rental apartments above. As you head north, moving away from the station area, the density gradually declines. While commercial uses remain on the eastern edge of the neighborhood, serving as a buffer to the train tracks, the northern and western portions of the neighborhood are entirely residential.



The Harriman station area represents the single greatest opportunity in Southeastern Orange County to capture a significant share of the region's growth in a neighborhood that is connected by transit to the job centers of Northern New Jersey and New York City. Development of the station area should be coupled with a landscape preservation and transfer of development rights strategy for the more rural and forested areas of Woodbury.

With the construction of the Seacaucus Transfer, transit riders originating at the Harriman Station can now more easily reach the plentiful jobs in New York City. This service improvement provides greater potential for Transit-Oriented Development along the Port Jervis line. Transit-oriented development is that which takes greatest advantage of transit service, organizing a mixture of uses in a walkable setting around the station. Residential uses would be marketed to commuters and the mixture of retail uses would primarily provide services for them. Additionally, office uses at the station could draw employees from other station areas within the New Jersey Transit system. By organizing a mixture of uses around train stations and raising the potential to commute and complete errands via transit, a community can avoid adding additional automobile trips to an already strained road network.

The area is not presently zoned for residential because of the sites' proximity to an active industrial use and fears over traffic and school children generation. The Nepera factory is no longer in use and the prospect of residential development in the station area is again a possibility.

A study of transit-oriented development (TOD) throughout the region has concluded that residential development in a TOD has a significantly lower yield of school age children than typical suburban development types. If the majority of residential development occurring in the station area consist of development rights retired from sending areas (see pages 26-27 of this report) throughout the municipality or even region, the net additional car trips and school children would be significantly less than under the business as usual development trend.

OPPORTUNITIES FOR NEW VILLAGE CENTERS

BLOOMING GROVE RURAL CROSSROADS

Development in the new village-scale center only takes place on the most appropriate lands for construction. The river valleys, wetlands, steep slopes, and ridgelines act as a framework within which the development occurs. These protected landscapes act as a greenbelt around the center, buffering it from surrounding developments. The added value to the center through trails, views, and overall quality of life.

A mixed-use and walkable node is created at the intersection of Route 208 and Clove Road. Traffic-calming measures are implemented at this intersection to slow traffic and even divert it to other routes. Alternatives to this intersection are provided by the new grid, formed by the streets of this new center. Traffic calming in the walkable core ensures that pedestrian activity is maximized.

There are several additional opportunities across the rural landscape of Blooming Grove to create new hamlet or village-scale centers. These walkable nodes will allow for a certain number of trips to be made by means other than the automobile and will enable large-scale landscape preservation while accommodating the same amount of development in the Town.

Three of these locations have been identified in the Town's most recent zoning ordinance. Rural Crossroads Districts were established at the intersections of Route 94 and Orrs Mill Road in Salisbury Mills, Route 208 and Clove Road, Route 208 and Mountain Lodge Road, and Route 94 and Farmingdale Road. Each of these intersections represents an opportunity to create a walkable node of mixed-use development, capturing a good share of Blooming Grove's residential and small-scale commercial development.

This case study examines the intersection of Route 208 and Clove Road in South Blooming Grove. By shifting development from one portion of a site to another, transferring development rights between parcels, and constructing a variety of mixed-use and residential building types, a more sustainable alternative to sprawling and automobile dependent rural development is achieved.



The green infrastructure is brought through the newly developed areas in the form of parks and green streets in order to make linkages in the larger green reserve. Residential development is organized around these green spaces, adding value to each individual unit. A resident of this new development may begin a walk from their front door, through the adjacent public square, and into a network of miles of trails and thousands of acres of protected lands.

CONSERVATION SUBDIVISIONS

SOUTHWEST MONROE

The majority of southern Monroe is protected from development as part of the Palisades Interstate Park System, Harriman State Park, and the Sterling Forest Reserve. There are several large parcels, however, that remain developable towards the southwestern corner of the Town along Lakes Road. In order to ensure that the development of these parcels do not negatively impact the aesthetic character of the Town's southern gateway and the area's quality of life, conservation subdivisions should be implemented. Conservation Subdivisions, described in more detail later in this report, preserve at least half of the parcel from development in perpetuity. The development is then organized on the remaining land in a way that limits its negative externalities as much as possible.

Several connections are made with adjacent developments and within the development in order to ensure many potential routes into and out of the development. This will avoid bottlenecks on any one particular gateway or road segment.



The portions of the parcels protected from development and preserved in perpetuity link together to form a robust network of open spaces. This network includes streams and wetlands, steep slopes, and ridgelines as well as connecting spaces to form a complete network of trails and wildlife corridors. Where this network intersects with the developed portions of the site, it continues into public parks and open spaces, around which the more dense development is organized.



Implementation Tools: Regional Scale

As has been discussed in this report, the primary recommendation has been to determine the areas of the region most appropriate for both growth and preservation in order to preserve the towns' rural character, strengthen the village and hamlet centers, control traffic and housing costs, and maintain the region's overall quality of life. As demonstrated in the build-out analysis under the current land use regulatory framework, business-as-usual development patterns will often not help the region's municipalities to reach their goals, but will instead exacerbate the present challenges of traffic congestion, declining housing affordability, and elimination of the region's rural character. Development, therefore, must often be shifted from its projected location in order to meet the quality of life goals of the region's municipalities.

Strategies for encouraging development in desired locations while discouraging it in undesired locations occur at three scales: intermunicipal transfer of development rights (from one town or village to another), intramunicipal transfer of development rights (from one site to another in the same town or village), and the shifting of development around a site (from one area within a single parcel to another area within that same parcel).

This section will deal with tools and techniques for implementing the region's growth management strategy at each of these scales.

Inter-Municipal Transfer of Development Rights

Transfer of Development Rights (TDR) is defined by New York statutes as "the process by which development rights are transferred from one lot, parcel, or area of land in a sending district to another lot, parcel, or area of land in one or more receiving districts." Local municipalities in New York State have authority to establish TDR program under chapter 40 of the Laws of 1989 to protect lands and sites of special historic, cultural, aesthetic or economic value.

New York State has provided local municipalities a great deal of flexibility in administering TDR programs. The development rights of properties in the sending district become severed from the real property and can be applied to a property in the receiving area, allowing for a greater density than is presently allowed under zoning. While these transfers can require complicated negotiations between multiple property owners, most successful TDR programs rely on a TDR bank, established as a holding entity of development rights. Property owners in the sending area can sell their development rights to a bank which can subsequently be purchased by property owners in the receiving area without going through negotiations.

As of 2003, there were 142 TDR programs nationwide of varying success. Two of the most successful programs in the country are in the tri-state region: in the New Jersey Pinelands and the Long Island Pine Barrens. There is also a burgeoning program in the New Jersey Highlands that aims to shift develop-

ment from the forested hills of New Jersey that provide the water supply of the population into the Township centers and boroughs of Northern New Jersey, serving to revitalize these downtowns.

Specific state legislation must be enacted to establish an inter-municipal TDR program. Such a program would be necessary in certain areas of SEOC if a reduction in development potential in the towns' peripheries is to be transferred to the village centers. The most applicable example would be the Town of Monroe and the Village of Monroe. In the most effective growth management scheme, development rights in the parcels around Dutch Hollow would be transferred to the Village center, limiting future road usage and encouraging retail development and walkability in the downtown. This would require enabling legislation to conduct inter-municipal transfers between the Town and the Village.

In addition to preserving property rights in the preservation areas or sending zones, TDR's great advantage is the fact that open space preservation is directly tied to village revitalization. The transfer of rights from rural areas to village centers (typically subject to a favorable ratio; each unit in the hills being worth several in the center) helps to maintain the rural and natural character of a region while simultaneously providing the incentives often necessary to encourage the intensification of village centers necessary to achieve walkability, community character, and a heightened sense of place.

A successful TDR program is one that:

- achieves preservation goals
- implements regional planning and recognizes capacity constraints
- treats landowners fairly by generating economic value
- allows for low-cost transactions
- spreads burden and impacts
- achieves local support and participation
- includes a specified cap on growth in individual municipalities

Long Island Pine Barrens, New York

The Long Island Pine Barrens Protection Act of 1993 put forth legislation that slated this ecological resource for protection from development. The Central Pine Barrens occupies 100,000 acres in Suffolk County, New York. The forested region exists above the Island's largest and most pure groundwater source. The resource spans portions of three towns - Brookhaven, Riverhead, and Southampton. The Act contained several important legislative components: it established a five-member Central Pine Barrens Joint Planning and Policy Commission to create and implement a Comprehensive Management Plan (CMP), adopted in 1995 and updated in 2005; and it divided the 100,000 acre region into a 53,000-acre Core Preservation Area permitting no new development, and a 47,000-acre Compatible Growth Area permitting limited development contingent on its environmental sustainability. The plan also suggests

that seventy-five percent of the Core Preservation Area be publicly acquired.

In order to preserve the remaining Core Area, a Transfer of Development Rights program was put in place. This program is targeted to purchase approximately 10,000 acres of the 14,000 privately held acreage within the Core Area. Since its inception, the Pine Barrens TDR program has allocated transferable development credits to 487 parcels in the Core Preservation Area. As of January 1, 2006, just over ten percent of the parcel owners in the sending area had participated in the program, preserving 1,067.43 of the 10,000 targeted acres. The average value of Pine Barrens TDR Credits is approximately \$16,500 per acre. As a voluntary component of the larger Pine Barrens regulatory system, the TDR program has been a success.

Implementation Tools: Municipal Scale

Intra-Municipal Transfer of Development Rights

Several areas within the SEOC region would not require an intermunicipal arrangement to achieve large benefits from a transfer of development rights strategy where existing and potential centers are located in the same municipality as rural areas targeted for preservation.

The Towns of Woodbury and Blooming Grove present particularly pronounced opportunities for shifting development from one parcel within the Town to another parcel within that same Town.

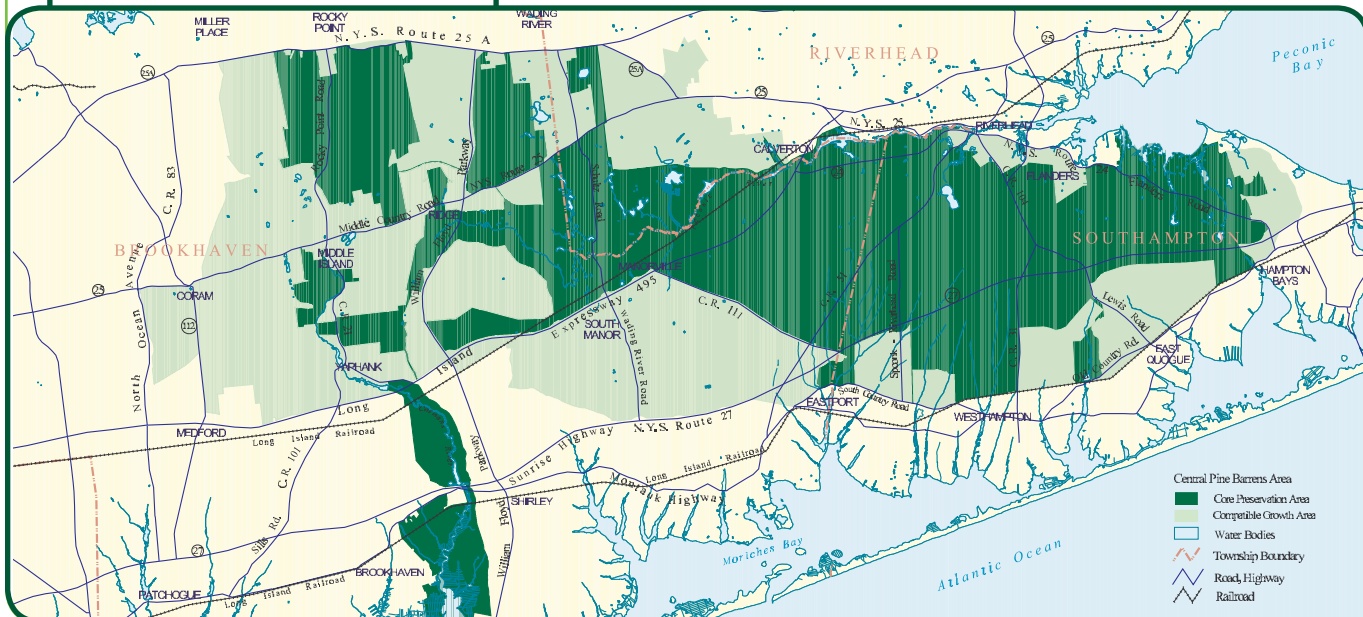
In Woodbury, there are large swaths of land to the east of the Thruway and in the north of the Town that are available for development of several hundred units today, or will be in the near future. If a TDR bank were established or individual agreements between property owners arranged, these forested areas of high ecological and aesthetic value could be retired from development in perpetuity while a new mixed-use town center could be created at the Harriman Station park and ride and the adjacent ICC property. As mentioned throughout this report, the area adjacent to Harriman Station presents a phenomenal opportunity within the study area to create a Transit-Oriented Development. Because of its proximity to a direct connection to the job centers further south and its combination of uses on one site, car usage and even ownership are much lower than typical for the region. Similarly, because the unit types could vary in such a development from single-family houses to

duplexes, townhouses, condos, and apartments and their size could vary from studios to three bedrooms or more, the household size could be managed through development types.

In Blooming Grove, some of the development that would occur as-of-right on the many developable parcels throughout the Town could be shifted to a central location, creating a new, mixed-use hamlet center. While there are several potential hamlet center locations identified in the most recent comprehensive plan and zoning for that Town, there is some concern over the concentration of density that may result from the development of a mixed-use community at one of these nodes. If this intensity of use is coupled with a preservation and density reduction strategy elsewhere in the municipality through a transfer of development rights program, the net impact on traffic generation and the other negative externalities associated with density would be reduced.

A municipal TDR program that transfers development from one area of a Town to another can be set up right now under current New York State Law. A thorough public education strategy would be necessary to ensure that citizens of the communities involved understood the connection between encouraging density in the centers and discouraging it in the hinterland. When the overall benefits of a TDR program are fully understood, the public and individual property owners are often the program's greatest advocates.

Long Island Pine Barrens Core Preservation and Compatible Growth Areas



The Comprehensive Plan

Municipalities have a great deal of power to manage growth within their borders. The Comprehensive Plan is the necessary starting point to allow for the rational allocation of land uses. The goals and objectives of the plan can be used to broadly outline the vision for the community and direction into which it hopes to grow in the future. The plan can be used to identify priority growth and conservation areas, displaying them on a map to guide future regulation. In directing capital budgets, this plan can also be used to provide the funding for infrastructure so necessary to accommodate denser development in village centers such as water and sewer capacity, sidewalks, and schools and for the funding of open space or the purchasing of development rights in conservation areas.

As long as a community is not perceived to be preventing growth entirely, it has broad authority to institute policies that phase and direct growth in a way that controls the negative externalities that often accompany sprawling, rapid development. It is equally important, therefore, to identify both where growth should be prevented from going as well as where it should be steered to. It is a recommendation of this study that the green infrastructure and growth management diagrams completed in this study be refined and incorporated into each municipality's comprehensive plan, providing the legal basis for identifying priority growth and preservation areas.

Priority Growth Areas

States, counties, and municipalities have the authority to establish priority growth areas within which they aim to target growth through infrastructure spending. More applicable at the county or state level, government plays a surprisingly pronounced role in guiding development through investment in roads, sewer capacity, and other infrastructure necessary to support development. Within its county-wide Comprehensive Plan, Orange County has established priority growth areas throughout the county; about one-third of the land area of SEOC falls within these areas. It is recommended that the county growth area in the SEOC be more finely tuned based on the growth management strategy developed out of the green and grey infrastructure analysis and that county and Orange County MPO monies be spent in ways that advance this strategy.

Availability of Public Facilities

Development can be timed according to the availability of public facilities within any given municipality. Courts have upheld the right of cities, towns, and villages to limit the number of dwelling units approved in any given year in order to allow for the tax revenue to accumulate and the supporting infrastructure to be constructed necessary for the future development's quality of life. The "Petaluma Plan" of Petaluma, California, limited the number of new dwelling units built each year and established a "greenbelt" around urban areas. "Public Welfare" was viewed by the court as broad enough to cover "Petaluma's desire to preserve its small town character, its open spaces and low density of population, and to grow at an orderly and deliberate pace." It is viable to want to promote orderly growth, a rural environment, a small-town atmosphere, and quiet family neighborhoods. Regulations that strictly limit growth in some areas of a municipality need to be accompanied by regulations that encourage, or at least allow for, growth in other areas in order to not be deemed exclusive under New York State law.



Planned Unit Development (PUD)

PUDs allow for much greater flexibility than typical zoning districts with rigid lot sizes, building arrangements, and division of uses. In this district which can be either fixed to a specific location or floating, the creation of a mixed-use community is possible with a variety of housing types, commercial center, and open spaces providing the ability to create a town center instead of a typical suburban sub-division. PUDs allow developers to be creative and think of inventive ways of making the greatest use out of a site while achieving the goals of a community outlined in their comprehensive plan.

Specific Area Plan

Specific Plans describe in more detail the type of development planned for a particular area than

found in the comprehensive plan. Specific area plans typically focus on some unique features of the geographic area that they encompass, and can relate to local conditions that cannot be fully addressed by conventional zoning. They are most commonly used in the State of California where a municipality typically determines the street pattern of an area and the relationship of uses to one another and to public spaces, allowing for the private landowners to incrementally implement the vision as their individual properties are developed.

Traditional Neighborhood Development (TND)

TNDs attempt to encourage development that is more similar to traditional neighborhoods of the pre-WWII era that were organized around village greens and combined a mixture of uses in a walkable and community-oriented setting. The development is compact so that a pedestrian can safely and easily travel between uses, offering an alternative to the automobile. A TND would look very similar to much of the built environment of SEOC that was constructed prior to the onset of the automobile. These neighborhoods are often those most sought out in the towns and villages of the region because of their quaint scale, walkability, and community feeling and TND ordinances attempt to recreate some of that rural village charm in new developments in the region.

Transit-Oriented Development (TOD)

TODs are very similar to TNDs in many ways. They are compact, walkable and community-oriented neighborhoods built in the traditional styles of the pre-WWII era. What makes a development a TOD, however, is that it is not only adjacent to a train station or bus stop, but that every effort be made through design so that it is as easy as possible to walk between the transit and the various uses of the development. The development must truly be oriented to the transit infrastructure. The intensity of uses and the density of activities is highest at the transit node, tapering down as one moves outward from the train station or bus stop. By locating the highest intensity of uses at transit nodes, organized in walkable centers, the region can slowly shift itself away from automobile dependency and towards a more sustainable development and mobility pattern.

Preservation Areas

In order to protect the most valuable landscapes in the region, it may be necessary to keep them free from development or greatly limit their development potential. This can be done with a wide variety of mechanisms ranging from outright purchase to regulatory limitations on the impact of the development.

Conservation Easements/ Purchase of Development Rights

The most obvious way to preserve individual parcels is through outright purchase by a government entity or conservation organization. As has been exemplified in past deals within the Town of Monroe, this purchase must be coupled with a conservation easement to ensure that the land is protected in perpetuity. There are certain lands in the southern portion of Monroe and southeastern Woodbury that may be attractive to interstate park commissions or federal agencies looking to bolster their existing park holdings. The most likely location in the study area for government purchasing is Schunemunk Mountain along the border between Woodbury and Blooming Grove. With commanding views of the Hudson Valley and serving as the backdrop to most views in the three towns, its preservation is essential to the maintenance of SEOC's character. In 2001, Governor Pataki established Schunemunk State Park with no present lands within its boundaries. Several organizations are on the verge of donating lands to constitute the core of the park and this would be a logical location for state investment to build upon the original holdings to create a contiguous state park constituting the entirety of the ridge. The difficulty in government acquisition is the removal of these lands from the municipal tax roll.

Without purchasing the actual real property that is desirable to conserve, the development rights themselves can be purchased, preserving the land in perpetuity. There is a successful example of such a program in the Long Island Pine Barrens of Suffolk County dating to the 1970s. Orange County runs a 20-million dollar program to assist municipal land purchase. It offers 50% of land value to purchase development rights from properties, to be matched by Town or Village funds. Using this funding as a base, it may be advantageous for a municipality to partially match these funds on properties of heightened ecological value, offering the owner a more attractive deal.

Protecting Natural Resources

Natural resources are essential to sustain development. In a more rural area such as Southeastern Orange County, growth is very much dependent on water quantity and quality. Much of the residential development of the region is serviced by individual septic systems. Coupled with the fact that the majority of the region's water supply is derived from groundwater and aquifer supplies, there is a great risk of contamination. In the groundwater recharge areas above the region's aquifers as well as in the watershed of the limited surface water sources, regulatory measures can be put in place to ensure the sustained replenishment and maintained quality of these water resources.

There are particular uses that, because of their byproducts, are not appropriate to locate near water resources. The amount of impermeable surfaces permitted on each site should be controlled to ensure greater infiltration of rain and runoff into the groundwater and aquifer supply. The most valuable water resources such as lakes, reservoirs, and primary river corridors should additionally be protected through the implementation of a buffer, within which development is completely prohibited. While the exact depth of the buffer is wholly dependent on slope and soil conditions particular to the geography of each feature, best practices recommend a minimum buffer of between 150 and 250 feet.

Additionally, hillside development often requires additional controls to ensure that construction on steep slopes does not jeopardize the safety of the building or exacerbate erosion further down the slope.

These protection measures can be employed in two different ways. In the first instance, these measures are written into the zoning language of particular use zones that are geographically aligned with the resources' watersheds. The more often-used approach is to create a water resource overlay district that applies an additional layer of regulations to the watershed on top of the underlying zoning, essentially applying two sets of guidelines to parcels lying within the watershed. An overlay zone is superimposed on one or more existing zoning districts.

Protecting Aesthetic and Scenic Resources

In New York State, municipalities are enabled to enact zoning or other land use regulation with aesthetics as the sole purpose. Much of what makes Southeastern Orange County such an attractive place to live, work, and play are the forested ridgelines

and hills that dominate the area's skyline and the scenic viewsheds from the rural roads that stretch across agricultural fields and into forests. Overlays can be used to protect ridgelines, scenic corridors or byways, viewsheds, and even historic resources by applying an additional set of aesthetic guidelines above and beyond the underlying zoning that controls use, height, bulk, and siting. These overlays often include more specific siting regulations for particular parcels or areas, specification of materials or architectural styles, controls on signage, and/or limitations on the removal of trees and vegetation or specification of the types of landscaping that can be implemented.

Agricultural Preservation

In order to maintain agricultural uses within a municipality, local governments have authority to assign preferential assessment to agricultural uses. One of the main reasons that farmers develop their land into residential or commercial uses is that they are unable to afford the property taxes on the rising value of their land on a farm income. By assigning these desired uses preferential assessment, they pay lower property taxes per value of land, allowing them to keep farming instead of being forced to sell to a developer in order to cover their costs.

Large Lot Downzoning

Some towns attempt to limit the effects of sprawling development by greatly increasing the minimum lot size in agricultural or forested areas through the creation of a forest residential zoning district, forest conservation overlay, or agricultural conservation overlay. These districts can be regulated to a very low density, anywhere from six to over one hundred acre lots, in order to preserve the forested or rural character. The least dense zones in both Monroe and Woodbury are 3 acre lots, still yielding several hundred units in presently forested areas on a handful of large parcels. Down-zoning the most remote areas of the three towns to Forest Conservation District at one unit per 25 or 40 acres would maintain the present character without eliminating the property owners' ability to make an economic use of their land. It should be noted, however, that although greatly reducing the allowed density, this zoning does not completely eliminate the negative externalities of sprawl.

Implementation Tools: Site Level

Conservation Subdivisions:

It is the recommendation of this report that Conservation Subdivisions be used as a tool to reduce the ecological, aesthetic, and traffic externalities associated with residential development in the rural fringes of the study area. This tool can also be used to incrementally implement the green and grey infrastructure plans for the municipalities of Southeastern Orange County.

A Conservation Subdivision is one that preserves fifty percent of the parcel to be subdivided, while clustering the allowable development on the remaining land. This method of development design adds value to a community by retaining aesthetic character, maintaining the quality of life, and adding to a municipality's parkland for use by its residents. Conservation subdivisions provide ecological value by reducing developments' impact on sensitive landscapes and by preserving wildlife habitat and migration corridors. Additionally, a Conservation Subdivision adds value to the development itself by limiting the amount of infrastructure necessary to service the residences and increasing their attractiveness and marketability by setting the units within a bucolic setting rarely achieved by typical subdivision spreading homes evenly across the landscape.

The first and most important step in designing a Conservation Subdivision is to determine which fifty percent of the site to preserve. The residential units must then be organized on the remaining, developable portion of the site. There are ten categories of natural, cultural, and historic features on the landscape that inform the conservation area of a subdivision (asterisks mark primary conservation areas that must be preserved; the remaining secondary factors are used to reach the final fifty percent):

***Wetlands** – Most wetlands are protected from development under state and federal law. Even those too small for state and federal regulation should be preserved from development because of their ability to filter stormwater runoff and their provision of wildlife habitat and travel corridors.

***Floodplains** – Allowing structures to be constructed where there is possibility of flooding is poor planning. It is inevitable that riparian zones and floodplains will be inundated by heavy storms during the lifetime of most structures constructed within the floodplain. On unwooded sites, the view of the river from houses sited outside the

floodplain will remain unchanged and limited cutting can provide views from forested lots.

***Slopes** – Structures should never be built on slopes over 25% due to the high potential for erosion and instability. Slopes between 15% and 25% should require special site planning and permitting to ensure that they do not result in unsafe or ecologically harmful development.

Soils – In areas such as SEOC where the majority of development outside the village centers will be serviced by septic systems and local wells, linking development with soil types that are best suited to filter effluent is very important. Development served by septic systems should be avoided where the soil types may lead to unsafe conditions and groundwater contamination.

Significant Wildlife Habitats – Any areas that contribute to habitat for threatened or endangered wildlife species should be preserved from development. Through a biological diversity survey, area with regional or even national significance should also be identified and protected within the conservation portion of a subdivision.

Woodlands – Although much of the wooded areas may be second or even third growth due to early colonial and industrial endeavors, the remaining stands provide aesthetic value and critical habitat. Wherever possible, particularly robust or unique stands should be preserved.

Farmland – Much of what contributes to the aesthetic value and quality of life of the SEOC is its agricultural history and landscape. Wherever possible, remnants of this character should be preserved.

Historic, Archaeological, and Cultural Features

– An inventory of a community's historic building stock and landscape will identify those structures or sites with particular significance and meaning. Even structures on the National Register are not protected from demolition unless there are accompanying local regulations to ensure their preservation.

Views into and out from the Site – This may be the most critical arena for balancing the needs of a developer with the concerns of the general public. The developer will want to maximize properties with the best views. Through well thought-out building siting and landscaping, this can be achieved while retaining the rural qualities of the site and natural character as viewed from the roads or other public vantage points.

Aquifers and Their Recharge Areas –

Impervious surfaces and uses with potentially harmful runoff should be avoided in areas that are located above groundwater and aquifers that are utilized for public or private wells. Preserving the recharge area up front will be much less expensive than paying to clean water in the future if it is allowed to become undrinkable.

The land that is to be preserved in the resultant development is typically managed by either a conservation organization, the municipality, or a homeowners' association. If deeded to a conservation organization, this land must be visited at a minimum annually to monitor adherence to the conservation restrictions. It is not uncommon for a developer to be mandated to provide an "endowment" in an amount sufficient to produce annual interest income equal to the conservation organization's out-of-pocket expenses. Municipalities typically limit the instances where they take ownership of the protected lands to circumstances where the resulting land will be used for active parkland by members of the general public in the municipality. Homeowners' associations have the capability to raise the funds necessary for the stewardship of the preserved land, but zoning regulations should mandate such associations to establish a management plan with objectives, procedures, and responsibilities for taking care of the commonly owned land. It is recommended that conservation land within subdivisions be delineated outside of individual household lots, allowing the land to be managed according to a set of uniform standards.

Implementing the Green and Grey Networks:

For long-range planning, the most important aspect of the Conservation Subdivision is its ability to incrementally create an interconnected network of protected lands and a road network that offers diverse opportunities for traversing the landscape. Isolated pockets of greenery can do little to protect water quality and are of relatively little value to wildlife. By coordinating the location of preservation area on each subdivision, the opportunity exists to create a fabric of open spaces that flows across the landscape and throughout the municipality regardless of parcel boundaries and property lines.

Existing Conditions



Business As Usual



Smart Growth Alternative



Instead of four distinct subdivisions with no connectivity between one another, this example from Northeast Blooming Grove demonstrates how the development within each parcel can be clustered away from the wetlands, river corridors, and ridgelines. The resulting open spaces add up to a robust green infrastructure network. The interconnected street network provides several ingress and egress opportunities as well as a parallel alternative to Mountain Lodge Rd.



Through a combination of Transfer of Development Rights and Conservation Subdivision Design, this example from South Blooming Grove demonstrates how development can be shifted from ecologically and aesthetically valuable Schunemunk Mountain to the Rural Crossroads at the intersection of Clove Rd. and Route 208. This example also shows how individual conservation subdivisions can incrementally implement a bypass road parallel to Route 208.

The intersection of Route 94 and Farmingdale Rd. presents a perfect opportunity for a new hamlet center in the Rural Crossroads II district. This example depicts one possible layout that creates a mixed-use, walkable node ringed by lower density neighborhoods and infiltrated by a robust park and open space network. Transfer of Development Rights allows for this hamlet center to be coupled with the preservation of large swaths of western Blooming Grove.



- Organize development around the natural framework of wetlands and stream corridors
- Higher density residential uses front onto the open spaces and parkland
- The streets within new developments provide alternatives to existing routes
- Bring green infrastructure through developed areas as parks and green streets in order to make linkages in the larger green reserve
- Orient houses towards streets
- Create a mixed use and pedestrian friendly "Main Street" at rural crossroads

Reference Materials

Regional Planning

McHarg, Ian. Design With Nature
Regional Plan Association. 1996. Region at Risk, Third Plan for New York and Its Environs.

Conservation Subdivisions/ Rural Planning

Arendt, Randall. 1996. Conservation Design for Subdivisions: A Practical Guide to Creating Open Space Networks. Washington, DC: Island Press.
Arendt, Randall, with Elizabeth Brabec, Harry Dodson, Christine Reid, and Robert Yaro. 1994. Rural By Design: Maintaining Small Town Character. Chicago Planners Press.
Daniels, Tom and Deborah Bowers. 1997. Holding Our Ground: Protecting American Farms and Farmland. Island Press: Washington, D.C.
Dutchess County Department of Planning and Development. Building Form Guidelines, Hamlet Design Guidelines, and the Rural Development Guidelines
Freilich, Robert H., and Michael A. Schulz. 1995. Model Subdivision Regulations: Planning and Law. Chicago: Planners Press. Georgia Quality Growth Toolkit. Flexible Street Design Standards.
Heyer, Fred. 1990. Preserving Rural Character. Planning Advisory Service Report No. 429. Chicago: American Planning Association.
Listoken, David, and Carole Walker. 1989. The Subdivision and Site Plan Handbook. New Brunswick, NJ: Rutgers, the State University of New Jersey, Center for Urban Policy Research.
Marriott, Paul Daniel. 1998. Saving Historic Roads: Design and Policy Guidelines. New York John Wiley & Sons, Inc.

Growth Centers

American Planning Association. 2004. Codifying New Urbanism: How to Reform Municipal Land Development Regulations. Chicago. APA.
Arendt, Randall. 1999. Crossroads, Hamlet, Village, Town: Design Characteristics of Traditional Neighborhoods, Old and New. Planning Advisory Service Report No. 487/488.
Chicago: American Planning Association.
Form Based Codes Institute website: <http://www.formbasedcodes.org/>
Burden, Dan, with Michael Wallwork, Ken Sides, Ramon Trias, and Harrison Bright Rue. 2002. Street Design Guidelines for Healthy Neighborhoods. Sacramento: Local Government Commission, Center for Livable Communities.
Stone, Jeremy, et al. 2005. Breaking Ground: Planning and Building in Priority Growth Districts; A Guide for Local Leaders. New York: Yale School of Forestry & Environmental Studies.

Transportation and Land Use

Ewing, Reid. 1997. Transportation & Land Use Innovations: When You Can't Pave Your Way Out of Congestion. Chicago: Planners Press.
Morris, Marya. 1996. Creating Transit-Supportive Land-Use Regulations. Planning Advisory Service Report No. 468. Chicago: American Planning Association.
Stover, Vergil G., and Frank J. Koepke. 1988. Transportation and Land Development. Washington, DC: Institute of Transportation Engineers.

Smart Growth

American Planning Association. 1998. Growing Smart Legislative Guidebook: Model Statutes for Planning and the Management of Change. Phases I and II Interim Edition. Chicago: American Planning Association.
Mantell, Michael A., Stephen F. Harper, and Luther Propst. 1990. Resource Guide for Creating Successful Communities. Washington, DC: Island Press.
Orange County Planning Department. 2003. Orange County Comprehensive Plan: Strategies for Quality Communities.
Orange County Planning Department. 2004. Orange County Open Space Plan: Quality of Life for Future Generations.
Oregon Transportation and Growth Management Program. 1998. The Principles of Smart Development. Planning Advisory Service Report No. 479. Chicago: American Planning Association.

Transfer of Development Rights

James, Franklin J. and Dennis E. Gale. 1997. Zoning For Sale: A Critical Analysis of Transfer Development Rights Programs. Urban Institute; Land Use Series: Washington, D.C.
National Association of Realtors website on Transfer of Development Rights: <http://www.realtor.org/libweb.nsf/pages/fg804>
Stinson, Joseph D. 1996. Transferring Development Rights: Purpose, Problems, and Prospects in New York. Pace Law Review, 17.

Toolkits

New York State Department of State Local Government Handbook website: <http://www.dos.state.ny.us/lgss/list9.html>
New York State Hudson River Valley Greenway technical toolkit website: <http://www.hudsongreenway.state.ny.us/techassist/toolbox2.htm>
Nolon, John, et al. 2001. Well Grounded: Using Local Land Use Authority to Achieve Smart Growth. New York. Environmental Law Institute.
Nolon, John and Patricia Salkin. 2006. Land Use in a Nutshell.
Regulatory Barriers Clearinghouse website: <http://www.huduser.org/rbc/whatsnew.asp>

Accessory Dwelling Units

AARP Accessory Dwelling Units: Model State Ordinance website: <http://www.aarp.org/research/legis-polit/legislation/aresearch-import-163-D17158.html>
Municipal Research and Services Center of Washington Accessory Dwelling Unit toolkit website: <http://www.mrsc.org/Publications/textadu.aspx>

All websites active as of January 12th, 2007

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Regional Plan Association (RPA) is an independent regional planning organization that improves the quality of life and the economic competitiveness of the 31-county, New York-New Jersey-Connecticut region through research, planning, and advocacy. Since 1922, RPA has been shaping transportation systems, protecting open spaces, and promoting better community design for the region's continued growth. We anticipate the challenges the region will face in the years to come, and we mobilize the region's civic, business, and government sectors to take action.

RPA's current work is aimed largely at implementing the ideas put forth in the Third Regional Plan, with efforts focused in five project areas: community design, open space, transportation, workforce and the economy, and housing. For more information about Regional Plan Association, please visit our website, www.rpa.org.

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